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September, 1935.

"Let There Be Sight"

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Number 3

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Eye Hygiene at Home and at Work

Walter H. Snyder, M.D.

THE loss of vision from early negligence is appalling, says Dr. Snyder. In industrial eye accidents, the first treatment that is given an embedded foreign body often determines what the disability will eventually be

FEW people stop to realize how frequently unnoticed eye symptoms or overlooked incidents involving the eyes may crop up later in life and form the underlying source of eye difficulty in middle age. Many cases of apparently sudden eye disintegration trace their origin to factors occurring early in life. Some of these factors are obvious; others are truly subtle, eluding even the perception of science.

Parental Rôle Important in Eye Hygiene

The development of preventive medicine can do much to insure good eyesight throughout life. It seems strange, therefore, that more attention has not been paid to the prevention of undue wear and strain upon the eyes. The dentists, it seems, have been able to wage a most successful campaign for the prevention of tooth disorders, despite the fact that dental prophylaxis is a relatively recent development. The unwillingness of the average parent to have his child properly examined by an ophthalmologist has contributed to the lagging of eye hygiene. Oddly enough, there are still people who believe that buying a pair of glasses in the five-and-ten-cents store, the general store, or the town jewelry shop, is sufficient eye hygiene. It is largely up to the family doctor to disillusion them of this fallacy. It is largely up to the medical profession, through its public utterances, to educate the community in proper care of the eyes.

The first four or five years of a child's life are fraught with the

greatest dangers to the eyes. Occasionally the ophthalmologists may be to blame. Some of them tell mothers who consult them that the children are not doing their eyes any particular harm when they string beads, draw, and do fine work for hours at a time. Fortunately, kindergarten schools have led the way in substituting more suitable activities. Fourth of July celebrations, too, have taken tremendous toll. It seems almost incredible that parents should permit their children to have the modern high explosive crackers and fireworks which may blow off their fingers and blow out their eyes.

Family Physician's Responsibility

Carelessness of children's welfare is a terrible indictment against our era. Even in the schools, very little impression has been made upon architects who design the lighting facilities of the rooms or upon those responsible for the seating arrangements. This disregard of those precious organs—the eyes—appears to be inherent in human nature. A walk through a general hospital will find half the convalescent patients lying down, reading for hours at a time, in spite of the strain on the eyes. Even the doctors seem not fully aware of the dangers of this and permit patients to while away their convalescence in this fashion. I feel that the general practitioner is partly responsible for this indifference to the precious sense of sight. Often I am told by children that when the family physician was consulted he said they would outgrow their eye difficulties and advised that nothing be done at the time. This too frequently delays proper care until the early adolescent years and permits a squint, for example, to develop into a condition difficult or impossible to correct except cosmetically.

To those who are checking up constantly on adult and late adult eye conditions, the loss in vision from early negligence is appalling. We find adults who never recovered eye health after an attack of measles or scarlet fever. When questioned, they say they were kept in a dark room for a few days, but, within a week, took up their usual school work. It would probably have been better for them not to have used their eyes for a month or six weeks. The ophthalmologist rarely is consulted at this stage and must depend upon the family physician or internist to carry out

remedial directions as to the use of the eyes after the exanthema. A child can soon overcome the lack of schooling, but never the handicap of poor vision. These children, as they approach early adult life, find themselves unable to do sustained eye work without headache and discomfort, much of which could have been avoided if they had had attention in early years.

Proper Use of Glasses

Frequently, if children needing them wear glasses during the first ten years of life, they can lay them aside later, with the satisfaction of knowing that the eyes have developed and can stand the rigors of modern life. As to whether glasses should be worn constantly, there is a difference of opinion. However, there is an increasing feeling among ophthalmologists that glasses should be worn constantly, especially by myopic children. I believe this to be excellent practice and its good results have been verified in many people who, at the ages of fifty to sixty, have a capacity for doing any amount of eye work.

Except in one or two of the larger cities, it is quite common to find that glasses are not in proper position mechanically before the eyes. The present tendency seems to be away from pince-nez, in favor of spectacles, which is certainly a wise trend for fashion to take. There are a few people who can wear pince-nez comfortably; but, with many, the smallness of the bridge of the nose and protrusion of the eyeball make the glass change its axis with every step the individual takes. Sunglasses, which are used for protection from bright light, should always be of a subdued color, such as London Smoke, rather than blue, purple, or yellow.

It will be many years before we get over the bad effects of the financial depression. Eyes have suffered, not only through the occurrence of increased general physical debility, but also because of the fact that new glasses have not been fitted when they were needed, nor glasses changed when necessary. Both teeth and eyes are neglected during times of financial strain and, in both instances, such neglect early in life leads to irreparable damage in later years.

Industrial Life Takes High Eye Toll

Obviously it is cheaper in the long run to prevent eye accidents than to pay compensation and make up the loss in time and effi-

ciency. It seems almost inexcusable, therefore, that employers overlook any possible safeguard, especially since the eye is one of the few organs in the body which has suffered in the changes of modern industry. Before the era of mass production, most eye losses were caused by gunfire, discharges from blasts, and, occasionally, from flying foreign bodies in machine shops; but, with the advent of high-speed tool steel, which will retain its temper while at white heat, and with rapidly turning lathes, the number of foreign bodies which penetrate the globe is enormously increased. Unfortunately, many of these metallic materials are non-magnetic and it is more difficult, therefore, to remove them from the eye without doing considerable damage.

A recent state campaign indicates that while there has been a reduction in the number of accidents to workers using hand tools, it has been offset by a vastly increased number of accidents to machine tool workers. The use of abrasive wheels, emery, carborundum, etc., together with the polishing materials, also has increased the number of accident cases having minute foreign bodies imbedded in the cornea. Mechanical accidents, then, have caused practically all of the increase in blindness of industrial origin in the last twenty-five years. Electric welding—now become a much used technique in industry—has also taken its toll of sight. Unless the operator's eyes are carefully shielded—and many of the masks are insufficient protection—the lids may suffer a burn and blind spots may develop in the retina. It has not been realized that bystanders, especially those working in proximity, may suffer almost as much as the operator.

The electrical discharge in blasting has materially lessened one danger to the eyes. The old-fashioned lighting fuse and black powder frequently would not burn, or burned so slowly that, when investigated, they went off and ruined the eye of the employee.

Special Recommendations for Industry

None of the occupational diseases of industry affects the eyes to any extent. Poor lighting is responsible for some eyestrain but the mechanical lathe which holds its own tool and finishes the job before stopping has relieved machinists of much eyestrain. Two factors in present-day industry to save the eye should be, first, a

better grade of goggles which will belong individually to the man using them. When goggles are left at the wheel to be used by anyone, they are apt to be greasy, badly fitting and, in fact, seldom used. The goggles should be ventilated. It should be the wearer's duty to keep them clean.

Two railroads in the United States have bought goggles at their own expense, for the men who were subjected to eye dangers, and both of them report that there is a satisfying decrease in the number of blind eyes during the year. The cost of prevention has been absorbed by fewer injuries.

The second factor is: the attitude of industrial commissions toward those taking care of diseases of the eye. The Ohio Industrial Commission will not pay the general practitioner at the same rate as the specialist for treating an injured eye, but it has not yet forbidden the general practitioner to do eye work in cities and towns where specialists are available. Eventually, the industrial commissions and self-insurers under the compensation laws will find a marked lessening in expense and better treatment by limiting the care of the eyes to properly qualified specialists. A great many of these cases, which would have been returned to work in a few days without loss of vision if properly treated, are so unintelligently handled that there is a loss of vision, varying in degree from a minor disability to total economic loss. The workman in the outskirts of the city who gets a foreign body in his eye may be told by his foreman to go to some doctor who lives nearby, where he is not treated as intelligently or scientifically as by a specialist in this line of work. Whether it would be right for the Commission to refuse permission is a matter that is open for discussion, but cases that are treated by competent specialists suffer much less disability than those treated by the physician who may live immediately adjacent to these shops.

In mass production, where much of the material is produced by automatic machinery, there will always be the danger of flying particles from one machine hitting an operator who may be as far as thirty feet from the machine from which the foreign body comes. It would seem that there could be a set-up of machines in irregular intervals that would lessen this danger, or that a screen of plate glass could be interposed between these machines or around them.

to prevent accidents. On the railroads, there have been fewer disabling accidents since the enginemen and firemen wear goggles. In repair work, the hacksaw has superseded the cold cut and sledge and has lessened accidents from this direction.

How Industry Can Reduce Eye Casualties

The factory hospital of industrial plants is a factor considered in efforts to reduce eye losses. The first treatment that is given an embedded foreign body often determines what the disability will eventually be; in the smaller concerns employing, say, fifty men or less, these cases are not so likely to be properly treated as in one of the larger shops.

One rule which I think should always be enforced is that any man grinding a tool on an abrasive wheel, unless the wheel is amply protected by plate-glass guards, should himself wear goggles. Another regulation to which I think there should be no exception is that any man who has lost the vision of an eye should wear a glass on the remaining eye for protection from foreign bodies, even though no correction is needed in the glass itself. I have had a few cases where the second eye was lost in the same manner as the first, when the loss of both eyes could have been easily avoided by the simplest kind of glass, as the particles are so small they do not break the lenses. It is interesting to note how few eyes have ever been injured by broken glass from the spectacle lens.

The safety-first program in schools should include instructions against the use of files and very highly tempered steel for punches, when they are not intended for that purpose, and also against the use of cheap cast-iron hammers which are often thought to be good enough for household use. In industry, hammers of lead or copper should be supplied and battered punches ground off or replaced.

Eye Examinations for Workers

Refraction for tool makers, die sinkers and machinists should include a regular examination and proper supervision to increase the ability to do proper work. A trained employee has a money value to his employer and should not be subject to the ordinary

turnover of labor. The present financial depression has proved that a group can be given special care at a lower fee, if it is not subject to loss in collection. This type of man is intelligent enough to appreciate the value of his eyes, the most necessary tool in his occupation. With proper protection from accidental injury; with care when accidents occur; with advice as to the prevention of disease which may cause visual loss, including examination for glasses, the total loss of vision in modern mechanized industry could be reduced to the minimum.

Points for Compensation Administration

To obtain the best results for the employee and the employer and the most economical administration of any agency of compensation, the following suggestions are made:

1. Every employee should be examined before engagement and tests made to determine:
 - A. Whether there is any disease present which should be treated.
 - B. Whether there is any condition which will be made worse by the employment sought.
 - C. Whether by fitting of glasses the efficiency of the employee can be increased.
2. The employer, whether insured in the regular compensation act or a self-insurer, should see that the injured men are referred for treatment to competent oculists, and not to someone who is simply friendly toward the boss or immediate supervisor of the employee.

This latter is very important, as poor care means increased expense to the state and taxpayer for compensation, lessened production for the employer, and increased disability to the employee for which no money can pay.
3. The employer should consider it a proper charge in the cost of his product to supply men with shatterproof glasses in the shape of goggles, and with proper service to maintain their eyes at the highest efficiency.

From forty years of observation, I feel convinced that very much better service can be given to the employee and to the state by a carefully considered plan in which only men of proven competence

would care for these cases. The employee, however, has a duty to report from time to time any change in his vision; tests, if properly supervised, can be made for a few cents per man. He must also be willing to wear protective goggles—which he is not willing to do now—but he has a right to expect them to be personal and not used by the entire force. Certainly we are not doing the best we can from an economic point of view, and a truly economic point of view includes human consideration.

Educational Results in Those with Weak Vision

Dr. M. Meissner

An Abridged Translation from the German*

By Dr. and Mrs. E. V. L. Brown

I SHOULD like now to reconsider the total number of our pupils and analyze this from an entirely different standpoint. Fifty of the 79 pupils are entirely blind; 8 pupils have so little vision that they are not suitable for instruction as persons with "weak vision"; 21 pupils have weak vision and are suitable for this special education. The condition will be clearer if stated in percentages: 63.3 per cent are entirely blind; 10.1 per cent have such a small remnant of vision that they can only be educated in a blind institution; 26.6 per cent have weak sight.

Reports of this kind from other institutions are not known to me, yet according to the opinion of specialists the number of weak-sighted is even greater in other institutions than in our own. This number is especially great in American institutions for the blind.

We stand fundamentally on the principle that these 26 per cent weak-sighted individuals should be considered as seeing persons and that it is most expedient to remove these children from blind

* M. Meissner: Ophthalmological Matters in a Blind Institution. *Transactions of the Vienna Ophthalmological Society*, April 4, 1932, pp. 70-80, published by S. Karger, Karlstrasse 39, Berlin, Germany, 1933. (The translation covers pages 71 and 77 to 80.)

** This group corresponds closely to children admitted to sight-saving classes in the United States and myope classes in England. (Translators.)

Translators' Note.—Although this article was originally read before the ophthalmologists of Vienna, it is of interest to all students of the causes and prevention of blindness. The following comparison between causes found in a blind school for Jewish children in 1911† and causes found by Meissner twenty-one years later in the same institution is especially valuable because: (1) the same classification is used, and (2) the diagnoses were made in the metropolitan area which for the past two genera-

† P. L. Silberstein, *Wiener Klinische Wochenschrift*, No. 40, pp. 1396-1400, 1911.

institutions and educate them in special schools for the weak-sighted. Unfortunately, this must remain only a fervent wish for the time being. Present economic conditions make the costly establishment of new schools and institutions quite impossible, not only in our country but also in most other countries.

If we separate the weak-visioned of the blind institutions into a special group and subject them to a special form of education, it is only because it is a necessary measure—one which we consider unavoidable and most expedient. These are only temporary measures, which we hope will be followed by better methods of instruction, with improvement of general conditions.

It was my privilege to make a previous report concerning the nature of this teaching. The training of the weak-sighted of our institution rests in the trustworthy hands of Dr. Loewenfeld and Fräulein Seif. The essence of the teaching has remained the same as then described. The fundamental principle is to bring to the weak-sighted the consciousness that they can see and to urge them to make the earliest possible use of their visual organs. It was definitely demonstrated that the special visual exercises, concerning which I reported at that time, are necessary for only a short period. In the blind school the classes are small, only six to ten in a class; individual treatment of the pupil is therefore possible and, whenever necessary, the teacher can urge the children

Translators' Note (Continued)

tions has been perhaps the most famous in the world for intensive study of eye conditions.

I. Eye Diseases and Injuries			II. General Diseases		III. Congenital Anomalies		
	1911	1932		1911 1932		1911	1932
Ophthalmia neonatorum...	6	1	Measles.....	9 3	Anophthalmus...	1	1
Trachoma.....	5	1	Scarlet fever....	6 3	Cataract.....	12	17
Glioma.....	—	1	Smallpox.....	10 4	Microphthalmus.	—	2
Keratitis.....	—	2	Typhus.....	— 1	Retinitis pigmen-		
High myopia....	—	4	Meningitis.....	10 9	tosa.....	4	3
Juvenile glauco-			Hydrocephalus..	3 3	Aniridia.....	—	1
ma.....	—	1	Head injuries...	2 —	Optic atrophy...	4	8
Detachment of				40 23	Albinism.....	1	—
retina.....	6	—			Buphthalmus...	1	—
Eye injuries....	4	9			Retinal and chor-		
Other acquired					oidal changes..	2	—
eye diseases...	14	—				25	32
	35	19					

Undetermined: 1911—0; 1932—5. Total: 1911—100; 1932—79.

to use their eyes. This is seldom necessary because, for the most part, the children use their eyes most zealously of their own accord.

The main task in the education of the weak-sighted is the instruction in the reading and writing of ordinary print and handwriting. The method of instruction has remained essentially the same. In keeping with our basic principle, of the nearest possible approximation to the ordinary conditions of life, we now make as little use of the aids especially devised for the weak-sighted as possible. The so-called Hamburg heavy-ruled copybooks are necessary at first. We now prefer to allow the child to write without lines, as it has been shown that following a line and the effort needed for the formation of letters requires a doubled exertion. Only when the technique of writing has been mastered may one return to following lines. Along with this it has developed that it suffices for the most part to make the beginning of the line somewhat wider. It also turns out that the upper border of a sheet of paper placed beneath the sheet to be written upon serves well as a line marker.

Some children prefer to write on the lined paper, others prefer to write on paper without lines; likewise, many children prefer to write with ink, while others use only pencils. No kind of compulsion is used and each individual child is given his choice.

Large print especially invented for the weak-sighted was used at first. Later, however, in adjusting instruction to everyday life conditions, we used type which corresponds to normal print. It is surely our main object during the process of education to make the weak-sighted as nearly like sighted persons as possible.

I should now like to demonstrate by means of specimens of writing a partial result of our method of instruction. In the reproduction of handwriting accompanying this article, you will observe

Author's Note.—"In response to a question from the translators I wish to state that it is now five years since extensive use has been made in our classes for weak-sighted of ordinary sized print; the educational results have continued to be as good and satisfactory as when my 1932 article* was written and I can still recommend it, unreservedly."

* M. Meissner: Über den Unterricht von Sehschwachen in der Blindenanstalt. *Zeitschrift für Augenheilkunde*, Bd. 73, pp. 56-61, 1930.

that the view expressed by me before the inception of this teaching of weak-sighted is vindicated—namely, that not the grade of vision alone is determinative of results but that the intellectual capacity and the good will of the individual are of very special importance. It is not true that those who see the most also learn to write easiest or best; definitely better results could be obtained with children with much less visual acuity, but who are more intellectually keen, than with children who have simply relatively good visual acuity.

Many specimens of writing of children with a visual acuity of counting fingers at 3.5 to 6 meters can scarcely be told from the writing of normally sighted pupils of the same age. You can also see that intelligent children with a vision of counting fingers at 1.5 meters may produce fairly good handwriting.

How very important intelligence and good will are can be seen from the samples of writing of totally blind children. In times past the blind have been made to write their own name in normal letters. But Dr. Loewenfeld went beyond this and attempted to teach an especially gifted and manually dextrous girl the other

Author's Note.—"Today I had opportunity to re-examine 12 of the 21 pupils who have been taught for five years on account of weak sight in the Institute for Blind Children. In 50 per cent I found an improvement of the vision, but I would not put too much stress on this point. The essential feature of the success is that the systematic instruction of the weak-sighted children produces a psychic change in the children, because they are transformed from blind persons to seeing individuals and they become capable of utilizing their feeble remnants of vision to a surprising degree. In the same institute teachers have obtained promising results with painting and drawing.

"As a better illustration of the results obtained in the instruction of weak-sighted children in writing, I enclose a few samples of writing by weak-sighted and completely blind children in the Blinden-Institute, Hohe Warte, Vienna. These classes for the weak-sighted children are conducted there by Mrs. Stein-Seif. The text of these samples submitted herewith has been composed by the children themselves, without any influence from their teacher. It contains interesting details of the attitude of the children in regard to the method and advantages of the instruction." *

* With the above letter (May 30, 1934) Dr. Meissner enclosed nine samples of handwriting of weak-sighted pupils and four of blind pupils. Of the nine, one pupil, an 18-year old, had 7/200 vision, four pupils (8, 13, 18, and 19 years old respectively) had 10/200 and four pupils (aged 13, 14, 15, and 15, respectively) had 20/200 vision.

The Translators.

Hubert Allenstein.

Ich bin Schüler im Blindeninstitut auf der hohen Warte
und lerne seit 4 Jahren die Schwardruckschrift. Jetzt habe
ich nur mit Blei geschrieben, jetzt aber schreibe ich alles mit
Tinte. Wir haben 2 Schreibstunden in der Woche. Außerdem müssen
wir oft Aufgaben für die Stunden bringen. Man macht weder das
Schwardruckschreiben noch das Lesen große Mühe, und ich zieh'
es dem Braillesen und schreiben vor.

Translated, the above reads:

I am a pupil in the Blind Institute on Hohe Warte and have studied ordinary black print four years. At first I wrote only with pencil; however, I now write everything with ink. We have two writing hours a week. Besides this we often have to do other tasks for three periods. Neither the writing nor the reading of black characters gives me much trouble and I prefer it to Braille reading and writing.

HUBERT ALLENSTEIN (age 13, vision 20/200).

A sample of the handwriting of a pupil the Blindeninstitut auf der Hohe Warte, Vienna, Austria, taught to read ordinary print instead of sight-saving class print.

letters as well. This experiment succeeded in a surprisingly short time and much more easily than was expected. It is notable and interesting that in the writing of three entirely blind pupils, taught at the same time and in the same manner by the same teacher, the handwriting of each individual had its own special characteristics.

From these results with the blind we do not urge that all blind pupils be taught normal writing. Yet it does not lack social significance that in especially adapted cases the blind can be placed in contact with the world about them through the use of everyday handwriting.

The specimen of handwriting which we have presented can show you only a partial result of our method of instruction. The most essential thing cannot be demonstrated—that is, the transformation of the blind person into a seeing one. This transformation, when brought to the consciousness of the weak-visioned one, formerly placed on exactly the same plane as a blind person in his instruction, induces a complete metamorphosis in his entire nature.

Our instruction of the weak-sighted has now covered a period of about three years. Our basic principle was to make use of the simplest means which correspond to everyday life. It has been shown that by our simple methods results were to be obtained more quickly and at less expense than with other methods. What we strove for we have accomplished. We have succeeded in increasing the self-confidence of our pupils, made them better satisfied with their fate and, in so far as possible, made the fight for existence easier. As our method can be undertaken at any time and anywhere, and because it is easily carried out and does not require costly new equipment or construction, we feel justified in recommending it further.

Prevention of Blindness in Hawaii*

Margaret M. L. Catton and Dora Zane

IN previous issues, we have published accounts of what particular states are doing to prevent blindness and conserve vision; we continue the series here with an outline of activities in Hawaii, a territory which aspires to statehood

FOLLOWING the pattern in the evolution of the movement for the prevention of blindness which is noted in every similar growth, the move to prevent blindness in Hawaii came as a natural sequel to the efforts to ameliorate the condition of those already blind. Before 1914, there were no institutions or facilities for the education of handicapped children; following the opening of a school for such children, in 1914, the Island facilities were expanded until the Territorial School for the Deaf and Blind came into being, providing not only for the education and vocational training of the handicapped children, but also for the training of blind adults.

Early Steps in Prevention

To prevent needless blindness from ophthalmia neonatorum was one of the chief reasons for the introduction in 1927 of a legislative bill to license midwives. It was very difficult to get favorable reception for such a bill. Midwifery is a practice so common among the lower economic groups as to be almost a tradition; furthermore to many the interpretation of the bill meant not only the prevention of services by midwives, but also by members of families or kindly neighbors to women who could not, or would not ask for trained obstetric care. Although couched in terms as would not prevent an expectant mother from having the help of a mid-

* Excerpted from a report, "A History of Services for the Blind and the Prevention of Blindness in Hawaii."

wife, or other person, provided a fee was not paid for delivery, the bill failed to pass in both the 1927 and 1929 sessions of the Legislature.

The compulsory use of specific drops (silver nitrate 1 per cent) was made a Board of Health regulation on May 4, 1930. To date, some instances have been reported of the use of argyrol instead of the specified drops, but generally speaking doctors and midwives are complying with the law.

Registration of Midwives

The third and last attempt to get legislation to govern the practice of midwives was made during the 1931 session. Even with the added support of the League of Women Voters and the Committee for the Blind, it again failed. The difficulty was so great of enacting a law which, to many, savored of discrimination, that it was finally decided to amend Section 1218 of the 1925 Revised Laws of Hawaii to read as follows: "All hospitals, lying-in institutions, physicians and midwives, shall register with the Secretary of the Board of Health within thirty days after taking effect of this act." Thus by making it mandatory for licensed doctors and hospitals as well as midwives to register with the Board of Health, there could be no distinction, and so the necessary regulations governing the practice of midwives were made possible. Defining the practice of midwifery as such assistance as may be rendered to a woman in normal childbirth by any person, for compensation, the Territorial Board of Health made rules governing their practices, of which the following is a summary:

All applicants shall make written and sworn application for registration on Board of Health forms with yearly registration.

Shall be free from all dangerous and communicable diseases, of good moral character, and at least 21 years of age.

Shall produce satisfactory evidence of having graduated from a recognized school of midwifery; of having successfully attended at least 20 cases of labor under the supervision of a licensed physician in the Territory; of having had the care of at least 20 mothers and newborn infants during a lying-in period of at least 10 days in each case.

Shall conform to the regulations set by the Board of Health

regarding personal cleanliness of midwives in attendance, and shall carry and have opened for inspection at all times, the necessary equipment required by the Board of Health.

Shall conform to the regulations of sanitary practices as required by the Board of Health in the handling of births and with the compulsory use of silver nitrate in the eyes of the infants.

Other Board of Health regulations relating to the care of the eyes are those making:

Gonorrheal ophthalmia reportable, and isolated, until discharge is bacteriologically negative.

Trachoma reportable and excluded from school until attendance is recommended by physician.

Follicular conjunctivitis reportable but school attendance allowed, if under proper medical supervision.

Acute epidemic conjunctivitis reportable and excluded from school during period of inflammation and discharge.

National Society for the Prevention of Blindness

With a conviction of the necessity of preventing loss of vision, as well as ameliorating the sufferings of the blind, Mrs. Mabel V. Lacy, principal of the Territorial School for the Deaf and Blind, interested the League of Women Voters, who, in turn, requested the Department of Public Instruction and the Board of Health to invite the National Society for the Prevention of Blindness to take the initiative in testing the vision of preschool and school children in Hawaii. In response to their letters, Mrs. Winifred Hathaway, associate director of the National Society for the Prevention of Blindness, was sent to Hawaii in January, 1932. Preliminary arrangements for her visit were made by a committee representative of the Territorial Board of Health, the Territorial Department of Public Instruction, Parent-Teacher Associations, League of Women Voters, Free Kindergarten and Child Health Association, United Welfare Fund and other educational and civic organizations. Dr. P. S. Platt, director of Palama Settlement, was chairman. Mrs. Hathaway spent about nine weeks in the Territory, and visited Oahu, Maui, Hawaii and Kauai. She commented on the lack of facilities for eye hygiene in a community (Honolulu) so well organized, otherwise, to care for the health of the preschool and school child. She noted three outstanding eye

conditions: strabismus (cross-eyes), acute conjunctivitis (pink-eye), and myopia (near sight), with evidences of styes, granulated lids, eyestrain, etc., and some trachoma. A further pertinent comment was the lack of educational facilities for children not blind but with definitely defective vision.

During her sojourn Mrs. Hathaway gave demonstrations of the visual acuity testing of young children to various groups, including parent-teacher organizations, physicians, nurses, teachers, social workers and student groups. She drew attention to proper lighting of school buildings and to the need of adequate illumination without glare. Mrs. Hathaway's study, "The Eyes of the Children of the Territory of Hawaii,"* may be summed up in her recommendations:

Establishment of eye clinics in general hospitals;

Establishment of well staffed ambulatory clinics for rural communities;

Concentrated effort be made to discover the sources of communicable eye diseases and to eliminate them;

Preliminary eye tests be given to preschool children and school pupils as a rough screening to discover those who need ophthalmological care;

The teaching of eye hygiene be included as an integral part of a well regulated health program;

Adequate illumination without glare be provided for all pupils at school, and that they be encouraged to try for like conditions in the home;

Sight-saving classes be established for the education of partially seeing pupils in elementary and junior high schools and arrangements for pupil readers for such students be made in the high schools.

Eye Medical Social Service

As a result of the interest of the National Society for the Prevention of Blindness, a scholarship was offered to a medical social worker who could meet the following qualifications: born in the Territory, an university graduate, a graduate of a school of social service, and with several years of experience in the field of medical social service. Mrs. Dora Zane so qualified, and was granted a leave of

* A copy in full may be seen at the Social Service Department, The Queen's Hospital, Honolulu, T. H.

seven months by the Hospital Social Service Association of Hawaii from her work in social service at Kauikeolani Children's Hospital. Going to Boston, she took an intensive course under the direction of Miss Amy G. Smith, chief of Social Service at the Massachusetts Eye and Ear Infirmary. In addition to her training in Boston, Mrs. Zane had observation periods with the New York and Missouri Commissions for the Blind. Upon her return to Honolulu she had to meet the further condition of affiliation with the Hospital Social Service Association of Hawaii—this because it was considered advisable to be affiliated with an established organization in medical social service.

As all the out-patient work in the city of Honolulu is done at Palama Settlement (a medical-recreational-educational center), the medical social eye worker attends its eye clinic, co-operating with the social service department by taking over responsibility for patients whose eye conditions need follow-up or case work.

Despite the eye clinic, Palama Settlement cannot take care of the number of children found in need of ophthalmological care. To meet this problem, an auxiliary refraction service has been started with the co-operation of ten eye specialists. After a general examination and a recheck on the vision, the patients found to have 20/40 vision or less are referred to the social worker, who asks the parent or guardian to name a specialist to whom to send the child. If there is no preference, the worker refers the child to the ophthalmologist next in order from the list of those who have consented to give free care to children referred by the clinic. The worker also assists the patients to obtain prescribed glasses, treatments, educational adjustments, etc.

The Territorial Committee for the Conservation of Sight

The National Society for the Prevention of Blindness was responsible for further sound organization. In order to co-ordinate Territorial with national activities Dr. F. J. Pinkerton was elected, in 1933, a member of their advisory council. Knowing, too, that without unity there must needs be overlapping and duplication, the National Society asked that the Governor, through Dr. Pinkerton, center the work for the blind and sight conservation in one committee, representative of all interests, and having gubernatorial

torial sanction; so was born on January 6, 1933, the Governor's Committee for the Conservation of Sight.

The first problem was to procure means to carry on the workshop for the blind and to initiate and support social service in behalf of sight conservation. To this end the Committee drafted a bill for an appropriation of \$25,900 for the biennium 1933-1935 to be presented to the Senate of the Legislature then in session. Because of the serious situation confronting the Legislature in meeting the Territorial budget for existing activities, it was impossible to get such a large sum for a new service, however important. The whole project might have lapsed but for the Hospital Social Service Association of Hawaii. Mrs. A. L. Andrews, first vice-president of the Association and a member of the committee which originated the School for Defectives in 1913, asked for a drastic revision of the bill to cover only such items as equipment for the shop for the blind, current expenses, and salaries for shop manager, shop instructor and social worker, respectively. Inadvisable to introduce it as a new measure, it was, with President Crawford's consent, included and passed in the budget of the University of Hawaii. Thus the work for the blind and conservation of sight became an extension function of the University.

Under the University's aegis, the Governor's Territorial Committee for the Conservation of Sight continues to function in an advisory capacity; Dr. Pinkerton, as chairman, is medical adviser; the Lions Club supervises the workshop; and the Hospital Social Service Association of Hawaii directs eye social service, for which the Queen's Hospital grants office space to the social worker. The social worker's duties include the giving of lectures and demonstrations on sight conservation at the University of Hawaii, at Teachers College, in the public schools, and such medical social service as presents itself in connection with clinic or hospitalized patients. Reports and accounts are submitted to the University of Hawaii through which salaries and expenses are paid. President Crawford asked for close co-operation between the two units—the workshop and conservation of sight.

Although the time has been short, a definite program has been established in putting sight conservation in the school system. Vision testing was inaugurated in the public schools in September,

1933. The technique of testing was demonstrated to the school nurses, who, in turn, demonstrated it to the teachers. As a result of the first school-wide vision tests, it was found that there was a sufficient number of children in Honolulu with seriously defective vision to warrant the establishment of a sight-saving class. This class, the first in Hawaii, will open in September.

Another step in furthering the message of sight conservation in the school system was the inclusion in the summer course at the University of Hawaii of a series of lectures on medical, social and educational aspects of sight saving, given by prominent ophthalmologists in Honolulu, for teachers and school nurses.

To the Future

Here we may close the first volume of our history of service in behalf of the blind and prevention of blindness in Hawaii. Not always has there been activity; there were intermittent and sometimes long periods of quiescence but the light has never failed. One can trace throughout a flame, however dim at times, of purpose and constancy.

The movement began with the general, it took on the specific: it began with all defective children, it concentrated in the deaf and blind. It was interested primarily in minors, it grew to include adults. It was first entirely the concern of socially minded laymen, it became also that of professionals. It was entirely civil, it is vested with statutes. It was local, it became territorial. It was territorial, it became national. At first concerned only with amelioration, it grew to see the importance of prevention. In the Department of Public Instruction, it later became a function of the University of Hawaii. And so we close this volume to be opened again as new chapters are added, chapters of continued service in behalf of the blind and surely of what is more fundamental—prevention of blindness.

Saving Your Eyesight

E. H. Cary, M.D.

THE eye cannot be considered as an isolated part of the body; the oculist, in periodic examinations of the eye, has an opportunity to discover early evidences of high blood pressure and other symptoms of disease

THE function of sight is the most important special sense inherited by man. The knowledge we have gained through the study of this organ includes its relation to the body, because we see in the eye many characteristic changes which we recognize as evidence of disease—either local in origin or from systemic infection involving, more or less, the whole body.

Disease of the eye may be seen on its external surface or it may be necessary to look into the eye. When such examinations disclose abnormal changes occurring in other organs of the body the oculist, while attempting to save the sight, usually directs his patient to the family doctor, who co-operates in the treatment to remove the cause.

The competent ophthalmic physician has the opportunity, through periodic examination of the human eye, to observe the early evidences of high blood pressure and other symptoms of disease which, if seen in time, are amenable to treatment. Many who are infrequently examined and who wait for failing vision to occur before seeking advice often lose not only their vision but many years of life.

Eye Modifications May be Inherited

The old adage, "An ounce of prevention is worth a pound of cure," more readily applies to the eyes than any other part of the body. From the cradle to the grave the eyes are subjected to many trials and, may I say, tribulations. We are born into the

world with definite tendencies and, often, frank inheritances; and for this reason the marriage ceremony should not be concluded without due regard to some of the basic causes which can lead to inherent weaknesses on the part of this unique organ.

Long before the birth of a child, modern prenatal observation and care make it possible for the doctor to prevent many tragedies by instituting active and consistent blood treatment of the mother, when found necessary. In a large percentage of cases, such treatment protects the newborn child from syphilitic infection—a scourge of humanity. Treatment of the mother in the majority of cases protects the child from the ravages of this disease, which may cause blindness or impaired sight as well as loss of hearing.

Without the treatment of the mother, if she be infected, infants are frequently stillborn; if the infant lives, he may not manifest any evidence of disease until young childhood is reached. Then one particular disease known as interstitial keratitis, a disease of the cornea, may appear. In this disease, the clear outer structure of the eye, through which the iris and pupil may be seen, becomes cloudy and finally the vision is shut out. Fortunately, the wise family doctor and the ophthalmic physician recognize this disease and its cause and have the cure at their command.

Another inherited tendency is the size and shape of the eyeball. Who has not observed a family whose members all wear glasses? And wisely so—their nervous system as well as their visual acuity requires the aid of properly fitted glasses. Persons with normal eyes, when the eye is accurately measured as to its refractive status, constitute only four per cent of human beings. Nature has provided, however, a mechanism of accommodation which aids in bringing parallel rays of light to a focus on the macula, where central vision is located. The farsighted person, whose eyeball is shorter than normal, is the one whose vision can be helped by the muscular action within the eye, which makes it possible for the crystalline lens to become more convex, thereby converging the parallel rays of light more accurately on the retina.

Astigmatism, as a rule, is due to an uneven curvature of the cornea or of the crystalline lens. There is a difference in the horizontal and vertical meridians of the eye, preventing the light

from focusing on or near the retina. The retina is the photographic plate, or nervous sheet, on which light vibrations stimulate nervous impulses which travel through the visual paths of the optic nerve to a part of the brain where images are recorded. Headaches, nausea and irritability are usually increased when there is astigmatism.

Reflex disturbances are more or less individual; therefore the lives of some persons are made quite miserable, while others who are affected may not immediately feel the need of eye protection, continuing to use their eyes to the point of eyestrain, producing damage which is observed later in life.

Before leaving this subject, it is well to say that most children, when born, are farsighted but, as the individual develops, the eyes also grow. Unfortunately, some eyes continue to elongate and they become nearsighted. Persons with this tendency hold their reading matter nearer and nearer to the eyes as they continue in school. They soon find it impossible to see objects at a distance as clearly as do their little neighbors. To rectify this condition requires the best judgment of an ophthalmic physician because, in both instances, he must use medicine to relax, for a time, the action of the ciliary muscle so that he can know the exact refractive status of an eye as well as the health of its interior.

Oculist Considers Eyes as Part of Whole Body

Saving your eyes for the long pull through life cannot be discussed without reference to refraction and the great need for the ophthalmic physician, who is armed with knowledge and with the legal right to use those medicines which make it possible to analyze accurately the refractive status of the eye and, from this, to predicate its relation to other reactions of the nervous system.

We must also recognize a disturbed function of a marvelous organ, which cannot be given best attention when approached as an isolated part of the body but must always be considered as an organ which is affected through its own nervous mechanism, its own need to be in balance with its associated eye; this balance being most important if the individual is to remain free from evidences of eye weakness.

With a knowledge of the history of the child and its parents, the function of the ductless glands, and the health of the whole body, the ophthalmic physician is then able to prescribe for and co-operate in the treatment of the individual to save his sight.

Adverting to disease of the eye, it might not be objectionable to mention the observation of the great obstetrician, Credé, in 1881, who observed the prevalence of ophthalmia in the newborn, where pus streamed out of the eyes a few days after birth. Twenty-five per cent of all blindness was due to this cause. Credé suggested that the use of a silver salt immediately after birth prevented, in most instances, the occurrence of this terrible disease known as ophthalmia neonatorum. One would imagine that this information would have been readily accepted and used throughout the world, but it has required a most active educational campaign by the leaders in American medicine during the early years of this century to inform the people, thereby materially reducing the percentage of blind persons in our institutions.

The public has been made conscious of the cause and prevention of this disease; the intelligent attendants of mothers in their great trial and hour of triumph can protect the innocent and can narrow the incidence to an infinitesimal occurrence. As there are many germs involved in the production of this disease other than the gonococcus, which is the usual cause, eternal vigilance on the part of the doctor and nurse is the price of protection.

Eye Diagnosis May Save Life

We must not lose sight of the salvage of life by speaking of the saving of sight. Every mother who looks lovingly into the eyes of her infant, and sees a golden or yellow reflex of light from the interior of the eye observed through the pupil of the eye, should know that it may be one of the two conditions producing this appearance of the amaurotic cat's eye. Now, remember the yellowish reflex, for it will more likely be the result of a malignant tumor growing from the retina of the eye, and in such a case the earliest possible consultation with an ophthalmic physician is most desirable.

Eye Protection in Industry

The active campaign instituted several years ago to protect the eyes of workers from injury has borne fruit. Many thousands of eyes have been saved by the use of protective goggles. Many workers have learned to seek professional aid for the removal of foreign bodies from the eye. Many eyes have been lost due to ulceration of the cornea, the result of an infection following the improper removal of a foreign body by an amateur. Persons who have an infection of their tear sac, which causes the tears to stand in the eye, are particularly prone to a destructive ulcer of the cornea following the slightest injury to the eye.

Eyes in Midlife

Old age brings changes which frequently lead to loss of vision. If the crystalline lens becomes opaque or hardened as a result of age, a cataract is the result. Cataracts can be removed in an otherwise healthy individual with perfect results, restoring vision. Medicine does not help when the opacity is marked. On the other hand, if the eyeball is becoming tense, due to intra-ocular pressure, there are certain prodromal or early symptoms which are worthy of your notice. For instance, when an individual sees a halo around the light, with or without pain in the temple; or when his eyes seem to require repeated change of glasses and when the individual is over forty years old, he may be afflicted with early glaucoma. Any individual with such symptoms should go to an ophthalmic physician for a very thorough examination. This should include a carefully taken field, for these early symptoms are often accompanied by slight changes in the field of vision, justifying the diagnosis of glaucoma at a time when preventive measures are most effective. Glaucoma frequently leads to blindness, and all of such cases end in blindness if not recognized early and properly treated.

Throughout life, it must be remembered that the eyes are among man's best possessions, and deserve adequate care. Considering that ninety per cent of our vast knowledge of the eye has developed in the past fifty years, there is much to be hoped for in the prevention of blindness and saving of sight, provided the individual does his part.

The Sight-Saving Class as a Mental Hygiene Measure

Catharine A. Flanigan

EMOTIONAL adjustment as well as relief of physical strain is afforded children with seriously defective vision in sight-saving classes

SOMEONE has said, "There are no problem children; children are reacting normally to a problem environment." This is an excellent justification for sight-saving classes. The mental problems of these children are so definitely those caused, directly or indirectly, by an easily recognized problem environment. Emil Fries, himself partially sighted although with so little vision as to be classed by most people as blind, says: "Whatever peculiarities the blind may be discovered to possess are little more than the reactions of their condition on their consciousness. They have few characteristics, except those directly traceable to lack of sight, that others are without."¹ In speaking of the partially sighted children coming to a sight-saving class the above statement would be even more emphatically true; they have no characteristics that other children are without, but due to the very definite problems in their environment, certain undesirable behavior patterns may be fostered or intensified in them.

Of course, not all children who come to a sight-saving class are unhappy victims of their environment. Their reactions to their handicap may be very fine, having been aided by understanding and sympathetic parents and teachers. However, even these children may benefit so greatly by an improved physical environment that the adjustments are simpler. A brief description of the types of children found in a sight-saving class, and the vari-

eties of school experiences that form their background, may prove helpful in showing the problems the teacher has to recognize and try to modify or eliminate.

Children Eligible for Sight-Saving Classes

Children who are eligible for these classes are those with permanently low vision, those with progressive eye defects or diseases, and those whose vision may deteriorate under normal school conditions. They enter a sight-saving class ordinarily with one of three types of school history. First, there are the children who enter a sight-saving class after they have fought their way through several years of school work in spite of their handicap. They may have been successful at the expense of great nerve and eye-strain, or they may have failed once or many times. This late entrance may be due to the lack of previous opportunity because of the lack of a sight-saving class, or it may be that, because of inadequate medical examination, the parent or teacher has "just discovered" the cause of the strain or failure. The second type includes those children who, during their school life, suddenly develop an eye difficulty, due either to disease or accident. Third, we have those children who have had an eye difficulty since birth or early childhood and who enter the sight-saving class without previous school experiences.

Aids to Adjustment

That the sight-saving class offers very definite aids in the emotional as well as the physical adjustments of its children has been recognized by those coming in contact with its operation. However, this particular phase of its contribution to society has not been treated separately. There are, of course, innumerable books on the eye and diseases of the eye. Many people have also written on the definite relation between strain and eye difficulties. Outstanding among these is Dr. Kerr's book² in which he discusses the contributions that correct physical environment and methods of instruction can make to the care of the diseased or defective eye considered from a physical point of view. Physicians, educators and engineers have written on the importance of light, equipment, materials, and methods of instruction from a medical, a

physical, and a pedagogical viewpoint. We can also find many research and experimental reports on eye diseases, their history, causes, treatment, and their inter-relations with social conditions.

The majority of the emotional maladjustments of the child entering a sight-saving class are traceable to the problems of his physical environment in relation to his eye difficulties. Not all of these can be corrected or improved in the sight-saving class, for the cause of much of the trouble is more often than not permanent. But so much can be accomplished through school influence that other environmental difficulties are often vitally affected.

That these maladjustments are caused only by one set of environmental factors such as those found in school life is illogical. Other situations existing in the home, family, recreation, friends, etc., are all contributing factors.

Physical Conditions in Classroom

To the child with defective vision, work in the regular grade with educational media unsuited to his needs may cause a great deal of eyestrain, with the attendant undesirable reactions, nervousness, fatigue, and increased eye difficulty. Dr. K. R. Smith, speaking of this condition, says: "Effort means fatigue when it is continuous; hence the inability for prolonged close work. Repeated fatigue may lead to a condition of exhaustion and to neurasthenic conditions, as well as to indications of irritation in and about the eyes themselves, which may be completely incapacitating."³

By use of the proper materials this strain is lessened or eliminated. Textbooks are printed on unglazed paper in 24-point type. In order to provide the children with the desirable amount of research material and to supplement their own limited reading, much reading aloud by the teacher is done in a sight-saving class. Movable seats make it possible for the children to get as close to the board as necessary, very large chalk and large manuscript writing (which has few acute angles) and correct spacing between lines and letters eliminate the strain of blackboard work. Special maps and pictures, large in size, distinct in outline, clear in color, and with a vast amount of detail omitted, provide these children with the illustrative material needed.

Causes of Eyestrain in Class

A common cause of eyestrain in the normal class situation is the long eye-work periods frequently used. Such continued use of the eyes may have no bad effect on a child with normal vision but may have a very definite effect on eyes which cannot comfortably do close eye work for more than fifteen or twenty minutes. The program of a sight-saving class provides for an eye rest period following each period of close eye use. For a person who has never had an eye difficulty it is hard to realize the amount of fatigue that is avoided by this frequent relaxation of nerves and muscles that work under constant strain.

Another source of difficulty may be the strain caused by incorrect lighting conditions in the usual classroom. Because of the large number of children and the fixed seats, the child often works in such a position that he has insufficient light, light coming from the wrong direction, or glare, either direct or reflected. Each of these, in itself, is a strain on even normal eyes; how much more so on eyes that are weak! The sight-saving class child, having been made light-conscious and having the advantages of unilateral lighting, movable seats, raised desks and dull-finished furniture, woodwork and walls, is spared this source of discomfort.

Mental Problems

At the beginning of this article it was said that there are no distinct "mental problems" with a direct eye source. There are, however, many mental problems arising from the physical strain under which a child with defective vision works in a normal classroom. Frequent headaches, tired nerves causing fatigue and inability to concentrate, frequent failure, the attitude of the other children toward one who is handicapped, etc., tend to cause undesirable behavior attitudes. Zackary says of the behavior of such children, "Since personality is built on a biological or physical foundation, in considering the education of personality we must not lose sight of the fact that ill health and lack of physical vigor may predispose the individual to nervous instability and that it is often on such a background that destructive patterns are built."⁴ The mere placing of a child in a comfortable working environment will, in some cases, cause a desirable change. The release from

strain will often prove sufficient to break these bonds and make the formation of a happy mental outlook possible without planning any curative measures. This is especially true if the child has but recently acquired poor eyesight and, therefore, has not had to face failures due to conditions he could not control or understand.

On the other hand, those children who have faced frequent failure and have developed an inferiority complex need definite curative measures. As in any other case study, we must carefully determine the cause of his failures and the defense mechanism he has built up before we can hope to reach the root of the child's trouble and help him to eradicate it. Thom says, "Most of the neurotic tendencies seen in adult life are efforts on the part of the individual to do two things; first, to get away from the demands of a situation, that to him, at least, seem intolerable; and second, to protect his own self-esteem by finding some plausible reason for the flight."⁵

Fields of Failure

There are three major fields—scholastic, social, and personal—in which the failures occur. These are so different that it is obvious the treatment of them must vary greatly. The number of children having a failure history on entering a sight-saving class makes it evident that failures in the scholastic field present a major cause for defense mechanisms. A study made in 1925 of the retardation and promotion records of the children in sight-saving classes in Cleveland shows that 65.5 per cent of the total enrollment of the sight-saving classes were chronologically retarded. The promotion record for children, while members of the classes, is 93.7 per cent. This shows quite definitely that in that city, at least, children capable of accomplishing the school requirements were victims of their environment.⁶ Since individuals have varying reactions to any situation, each of which may be normal for that individual, so these children have normal but differing reactions to their scholastic failures.

One child, an introvert type, may tend to become more and more of a recluse. This is especially true of myopes because their vision is such that they can see distinctly only when material is held close to the eyes. Because they are failing in subject

matter they tend to work more and more, and sometimes overcome failure by sheer effort, not realizing that they are narrowing their outlook on life and increasing their eye difficulty. In the sight-saving class an attempt is made to draw such a child out of this recluse attitude. The group in a sight-saving class is small and, therefore, he can automatically feel his greater importance in it; his periods of eye work are curtailed and his activities, during his increased leisure, are guided so that he feels there are other worth-while things in life. Other avenues of learning are opened; a reader may be provided to relieve him of some of the eye work in preparing lessons, and he is helped to understand the use he may make of the radio, museums, etc., as sources of information.

Rationalizing offers an excellent escape for the child who has been led to self-pity and a feeling of inadequacy by hearing adults exclaim, "Remember, he cannot see well," or who has learned from experience that the excuse, "I cannot see that," is accepted as an alibi for lack of effort. Thom, in speaking of such cases, says, "Not infrequently we find children exploiting their illness to avoid an unpleasant duty or to gain attention."⁷ When this illness or condition is chronic it surely is not hard to understand the growth of this reaction. In a sight-saving class such excuse is no longer valid since the child realizes and is conscious that others realize he can see the materials presented to him in the sight-saving class. Accompanying the removal of excuses, there must be a special effort on the part of the sight-saving class teacher to provide situations in which the child may be confident of success. Careful diagnostic tests will reveal just how far the child has progressed, for grade placement is a very inaccurate guide. Carefully graded work in which the child will experience both success and progress, and thus connect pleasant reactions with effort, will gradually weaken the habit of offering excuses and strengthen desirable behavior habits.

The extrovert child frequently assumes a superior attitude to cover his inability to succeed. He believes that he is different and is proud of the fact. He has an interesting handicap that others do not possess and which many cannot be expected to understand. In most cases parents are to blame for the acquiring of this complex. When the child and his parents are taught that

the sight-saving class teacher understands exactly the limitations of the child, he can then be treated in a manner that will bring about more normal reactions.

Social Failures in School

The partially seeing child may also meet social failure in school, especially in the game or physical work period. This, however, unlike the scholastic failure, is not limited to school situations but extends to other social relationships. He may be keenly conscious of the fact that he is unable to win any game in which quickness or accuracy of vision is an element. Also, he very often fails to observe small or rapidly moving objects that are plainly visible to his companions, such as birds, leaves on the trees, airplanes flying, etc. Very definitely the advice of Dr. Charles Scott Berry is applicable, "Direct the attention of the handicapped child away from what he cannot do to what he can do. Specialize on strength, not weakness. Give him an opportunity to participate in social activities while he is in school, similar to those in which he will participate when he leaves school."⁸ Many of the games played by normal children are either dangerous or inevitable failure situations for the visually handicapped child. His participation in the physical work with normal children should be limited to those games and exercises in which he can successfully join.

It is here, and in helping him choose hobbies for his leisure time, that the greatest care must be exercised in assisting him to get a wholesome realization of his handicap. The teacher cannot remove, or even partially correct, the definite problem that his vision difficulty presents to the child, but she can help him to get the greater outlook that "Mental health is not just happiness, just contentment, or efficiency, or the grace of obeying the rules of the games cheerfully. It is all of these together. It is the capacity for facing the adventures of life bravely and effectively, and adjusting oneself to the demands of the situation without damaging it or being damaged by it."

By building up this outlook, by helping the children to see all the angles of a situation and to judge them before attacking it, the sight-saving class teacher is forestalling many future failures the child would otherwise experience. She may be able to aid

the child somewhat in choosing a vocation by suggesting, from her knowledge of his physical, mental and social ability, avenues that are open to him.

Problems of the Gifted Child

In the sight-saving class, as in every school situation, the really gifted child presents the gravest problem. But the sight-saving class teacher can teach him to use all the tools at his command; she can often provide readers to bring to him the material he cannot find for himself; she can emphasize the value of the radio with its wealth of information, inspiration and the beauties of life—travel, religion, music, poetry—and the typewriter to record his thoughts without eyestrain. Perhaps she can give him a real courage and faith in his ability to live up to his gifts through a knowledge and an appreciation of the great ones of the world who were handicapped—Handel, Milton, Beethoven, Helen Keller, Franklin D. Roosevelt, and others. If the teacher can do this, the mental hygiene ideal may be more nearly realized, that “Happiness comes from doing and exercising one’s creative faculties, whatever they may be; and he who finds ample opportunity for fundamental expression needs no one’s pity.”⁹

Result of Failure

Of failures in general someone has said, “Failures in general lower his self-esteem. He feels inferior, is filled with doubts and misgivings, is lacking in confidence, and thinks himself inadequate to meet any situation which needs self-assurance.” No sense of failure is as tragic as that of a child who feels that he is a failure personally, in appearance, in his immediate social group, or in his attempts to meet new situations. Frequently, defective eyes are less attractive than normal eyes and the child is hurt either intentionally or unintentionally by cruel or inconsiderate people. When the child’s unhappiness is simply associated with his physical appearance, carefully selected true compliments, given casually and frequently, will do much to rebuild self-esteem. The teacher can also enlist the co-operation of other teachers, and of the parents, to surround the child with an appreciative atmosphere. In many cases, a true value of appearance and character may

help the child to regain a balanced outlook. This process is slow and needs a very carefully planned program.

Apparent laziness often accompanies this lack of the child's faith in himself. He has no desire to attack new situations. This is especially true if a dependent attitude has been fostered in the home. Again the sight-saving class teacher can do much to provide success situations in school work, game situations, and in personal responsibilities toward the group and school, since she has an appreciation of his difficulties. In every problem the teacher meets she needs a great fund of understanding sympathy.

Problem Parents

In our dealings with maladjusted children we find all too frequently that we are dealing with problem parents. Bronson Crothers, writing of children with sensory-motor defects, says, "They frequently suffer from entirely unnecessary difficulties, some of which are gratuitously imposed on them by well-meaning teachers and relatives."¹⁰ Though, for the sake of clearness, the relationship of the sight-saving class and the child, and the relationship of the sight-saving class and the parent are treated separately in this paper, in practice they are closely integrated. We cannot hope to adjust the child satisfactorily without the co-operation of his parents. "Habitually undesirable behavior in a child is a symptom that the training methods or attitudes of the parent need changing."¹¹

These undesirable parent attitudes may be due to one of several causes. The parent may be over-sympathetic, and thus emphasize the handicap of the child and make him dependent on her sympathy and aid. She often indulges the child by offering him rewards or bribes to work or to obey ordinary eye health rules that should be habitual. In these matters, indulgences such as allowing him to go without glasses when they have been recommended by the physician, or to read fine print, are definitely harmful.

Another common cause of these attitudes on the part of the parents is indifference. In this case they fail to realize the problems of the child and either force him into an unhappy failure reaction because he is expected to live up to the requirements of the normally sighted child, or permit him to become an introvert through

neglect. Again, important eye health habits may be neglected, not through indulgence, but through indifference on the part of the parents.

A third type of parent is the one who fails to understand the situation, either through ignorance or a refusal to face the facts of the case. Perhaps the doctor has failed to impress or explain the seriousness of the child's eye condition or the parent refuses to believe it is as bad as he says.

In any of these cases the parents do not understand and apply the fundamental rules of eye hygiene or realize their importance in the emotional and physical development of the child. The problem of reaching these parents and of educating them is a very important part of the sight-saving class teacher's work. The very first requirement is to gain their sympathetic interest. Home calls and cordial invitations to visit the school help to establish these relationships. After the teacher has become acquainted with the home conditions, visits to the school will probably be more fruitful. Attention called to the fine equipment and the reason for its selection explained, praise of the good eye habits the child is acquiring, oral hygiene lessons in which the children themselves stress desirable eye rules, will do much to teach parents their importance. A careful explanation of the child's capability and handicap (based on the physician's diagnosis) may be information they will be glad to receive.

If the teacher is trying a curative program involving social situations or behavior attitudes that should be extended to the home and play environment, the co-operation of the parent is invaluable.

Sight-Saving Class Meets Social Problems

The sight-saving class meets a widespread social problem. About one child in 500 of the school population is in need of this special education. Their problems are not limited to the children themselves. As Mrs. Hathaway has stated so concisely, "Nor are the children alone benefited; grade teachers who have found these children one of their greatest problems are relieved of having to devote an unfair amount of time to them; nurses are no longer worried with the fear that the eyes of their charges are growing worse, for they know that every opportunity is given them to

grow better; oculists who have been at their wits' end to know what to do with children unable to use the regular school equipment find in these classes a solution for one of their many problems."¹²

Sight-saving classes are a very great preventive of even greater social and mental problems than those mentioned. They do, in a large measure, prevent turning out into the world a number of untrained or unadjusted individuals and also frequently do what the name suggests, save the sight of the partially sighted child. In these latter cases, the sight-saving class prevents society from becoming burdened with the financial and mental problems of the blind.

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Editorial

Conserving the Sight of School Children

A NEW school year has begun. Millions of children have been taken from the sunlight and out-of-doors, from activity and play, and assigned—so many to each room—each to his own seat and desk. Does the school consider the effect on the eyes of such change? School teachers, supervisors, principals, school physicians and nurses, as well as parents, are deeply concerned with the welfare of these children as charges of the school. Through the design of the school system, not one of these millions of children is overlooked—each answers to some particular rollcall; each is surrendered by parents or guardians for learning and well-keeping during the school period. In fact, a large percentage of them are at school under legal compulsion, for in most states school attendance is required until at least the age of fourteen.

As one intimately connected with the schools for many years, I feel that the school is, in a manner, the guardian of the school child, and quite rightly is responsible for taking his health inventory. Each year, health inspections are made through the cooperation of the school physician and nurse with the teacher. As a part of this inspection, vision is tested, sometimes by the teacher, sometimes by the school nurse. When a deviation from the normal is suspected, parents are informed and urged to seek the advice of a physician.

If school teachers are to meet the heavy burden of responsibility placed upon them, they must be accorded the opportunity of adequate and proper pre-teaching training. Of the thousands of teachers, many are teaching for the first time. How many of them have had, as part of their curricular study, elementary eye hygiene, an introduction to school lighting, an understanding interpretation of why they will be responsible for and how they may safeguard the eyesight of school children?

The National Education Association maintains a joint health

education committee with the American Medical Association which is endeavoring to assist teachers and school nurses, as well as parents, by publishing and making available to them concise monographs on the subject of school health. In the preparation of these reports, outstanding experts are consulted. The chairman of the committee is Dr. Thomas D. Wood, professor emeritus of health education, Teachers College, Columbia University.

Recently, *Conserving the Sight of School Children* has been completely revised and expanded under the direction of Dr. Wood. Among the subjects discussed in the new edition are: the importance and extent of defective vision among school children; vision inspection and follow-up; classroom lighting and the problem of eye health; home and school co-operation in a program of eye health; and the school program of eye health. It is the consensus of the eminent educators and ophthalmologists who reviewed advance proofs that this publication is of utmost importance. I sincerely believe that until the time when every teacher training institution has these topics as part of its curriculum in health education, this monograph should be a part of the content of every teacher's equipment.

LEWIS H. CARRIS

The Forum

THIS section is reserved for brief or informal papers, discussions, questions and answers, and occasional pertinent quotations from other publications. We offer to publish letters or excerpts of general interest, assuming no responsibility for the opinions expressed therein. Individual questions are turned over to consultants in the particular field. Every communication must contain the writer's name and address, but these are omitted on request

Corrective and Protective Eye Goggles for Coal Mine Employees

During 1933, The Union Pacific Coal Co., operating ten coal mines in Wyoming, decided to undertake a visual survey of all of its mine operating officials and employees. Although the cost of workmen's compensation paid because of eye injuries was material, the management was more deeply concerned with the social loss and the suffering resulting from the many eye injuries.

As every element of coal production cost must be scrutinized, accurate data on all accidents, with the workmen's compensation paid therefor, are carried forward monthly. The number of accidents to eyesight and the resultant compensation paid are shown in Table 1 for nine calendar years:

TABLE 1. ACCIDENTS TO EYES AND COMPENSATION PAID

Year	Number Accidents	Compensation Paid
1925.....	15	\$3,447.60
1926.....	25	3,889.69
1927.....	13	5,197.86
1928.....	13	323.74
1929.....	15	255.00
1930.....	19	3,264.00
1931.....	14	4,932.02
1932.....	13	6,211.72
1933.....	4	1,960.49
Total.....	131	\$29,482.12

The limited compensation paid in 1928 and 1929 was because of the absence of a major eye injury in either year. The relatively small sum paid in 1933 represents payment for all accidents occurring from Jan. 1 to April 24, inclusive, after which, with the completion of our sight-protective program, no further accident to eyesight occurred up to the present moment, May 29, 1934. The last eye accident, which occurred on April 24,

1933, was a most unfortunate one, occurring as it did to a valued employee occupying a supervisory position. He had been examined for protective glasses just four days before a small piece of metal pierced the eyelid and eyeball, lodging in the muscular structure back of the eye, resulting in infection necessitating the removal of the eye.

The visual survey covered the examination of the eyesight of 1,742 men by a skilled oculist and optometrist. Of those examined, 436, or 25 per cent, were found to have 20/20, or normal vision, without glasses; the rest, 1,306, or 75 per cent, were found to be suffering defective vision in a major or minor degree. Of the 1,742 men examined, 593, or 28.3 per cent, were found to have major defects requiring correction.

A total of 113 men, or 6.48 per cent, was found with eyesight in bad condition, certain of the defects developed being present since birth, others being caused by disease and accidents, some of which occurred in boyhood or outside the mining industry after maturity, with a number properly chargeable to accidents in and about the mines. These 113 cases have been divided into four classes as set forth below:

- (1) Men who, preceding the completion of the survey, had suffered the removal of one eye and who were wearing an artificial eye. There

were seven in this class, one of whom lost an eye while the survey was under way.

- (2) Men other than those in Class 1 who are either totally blind in one eye or who have light perception and projection only in one eye. Twenty men were in this class.
- (3) Men who suffer poor vision in one or both eyes with or without glasses. Seventy-two men were in this class.
- (4) Men who suffer from a progressive eye disease, and which will unfortunately, in all probability, grow worse. Fourteen men were so reported.

The survey included 85 young men employed during the examination period, nearly all of whom enjoyed 20/20 or normal vision. All of these young men were equipped with protective super-armor plate glasses before commencing work in the mines; starting out with adequate eye protection, they will be able to escape the tragedies suffered by many of the older men.

Preparatory to establishing the compulsory use of protective glasses, a careful study of all available glasses and goggles was made, certain of the supervisory staff and workmen offering to try out the twoscore samples submitted. Thereafter an experienced safety engineer, who had given special attention to eye protection among shop workers, was requested to enter some of the mines, observ-

ing the conditions and character of employment with relation to sight requirements. As the mines are almost wholly mechanized, using trolley locomotives, undercutting machines and mechanical loading machines of various types, the question of lateral or side vision was most important. As a result of the several studies made, the super-armor plate-glass type without side screens was chosen for all workers other than those employed in machine repair work; for this service, super-armor plate glasses with side screens were made standard. All employees engaged in operating welding machines had previously been supplied with colored glasses and face masks.

Certain interesting facts were brought out by the application of protective glasses ground for correction of defective eyesight. A number of employees, some of whom were under 35 years of age, showed by examination visual conditions of the most serious character; for example, one man, but 29 years old, was found to be incapable of counting the number of fingers before him, if held more than 2 feet from his eyes. A corrective lens brought one eye up to almost perfect vision, but it was impossible to do anything with the other eye. This man had never suffered any accident to his eyes but both eyes had been operated on for cataracts. The examination showed the possibility of making an improvement

in the worse eye by a further operation.

Another man but 40 years old was found with eyesight so bad that he could see only at 5 feet objects which should be seen at 200 feet with normal eyesight. This man had been injured by being kicked in the head by a horse some years before. Corrective glasses were furnished and the employee was placed in a position where he will not be compelled to work alone, and as far remote from danger as possible. Another man, 51 years old, whose eyes also had been operated on for cataracts, was found with very poor eyesight, but corrective glasses brought one eye practically up to normal, the other one to fair visual capacity.

During the eight-year period, 1925 to 1932, inclusive, 11 employees lost almost wholly or totally the sight of one eye. These accidents, when considered in connection with the much greater number of minor injuries received, represent a record of personal injury, human suffering, and social loss, which more than justifies the mandatory use of protective glasses by men working in and about coal mines, wherever located. Certain employees objected to the use of glasses, and as the earnings of the mine workers were comparatively low at the time the plan was put into effect, the management decided to furnish free examination and glasses to the men then in

their employ, with all replacements, as well as glasses required by men entering the service thereafter, to be purchased at the expense of the employee. The average cost per employee, including examination and glasses ground for correction where required, was \$3.21 per pair. Not a single employee was taken out of service on account of impaired vision and the men with very inferior eyesight, which could not be corrected, were transferred to the least dangerous tasks.

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Trachoma in Wrestlers: a Menace to Public Health

It has long been known that trachoma is practically an occupational disease in wrestlers. As long ago as 1922 the late Dr. J. M. Patton¹ reported eight cases in professional wrestlers, and was even able to trace, in a somewhat incomplete fashion, the source of the disease in each of his patients. At that time major professional wrestling was limited largely to a small coterie, and the disease was confined to a somewhat narrow circle. However, with the advent of highly organized management the sport became much more popular. Increased remuneration attracted to its ranks many former college ath-

letes and other young men who were prevented by the economic depression from obtaining other work. The nucleus of the new sport was the old-time professional wrestler; but before long the newcomers began to contract the disease, and to endanger the members of their immediate families and even their friends.

In 1930 Dr. W. H. Zentmayer² drew the attention of public health authorities to this new menace, but his warnings went unheeded.

The following cases are interesting and typical:

In 1933 the writer was asked to see a former intercollegiate football star who was complaining of sore eyes. His symptoms dated from the time that he began to wrestle professionally, three months before. He was suffering from early trachoma. He was advised to give up wrestling while his eyes were being treated; and he returned to his home in Chicago, where he saw Dr. Sanford Gifford. The latter wrote: "I feel quite sure that this is trachoma in the early diffuse stage when few definite follicles are present. When I was in Omaha, we saw eight cases in wrestlers, all very early and with the same picture. Their later course showed them to be undoubted cases of trachoma, and I am quite sure that X is another."

Under treatment the eyes im-

¹ Patton, James M.: Wrestlers' Trachoma, *Am. Jour. Ophth.* 5:545:1922.

² Zentmayer, William H.: Trachoma in Wrestlers, *Arch. Ophth.* 5:666:1931.

proved. As his apprehension lessened the patient became careless, resumed his wrestling, and before long his eyes became much worse. A year later Dr. Gifford wrote: "I am sorry I cannot tell you that X is well. He was at first somewhat irregular in coming for his treatments, but in spite of this his lids were almost smooth last July. He then went away for five months, using copper drops and I was sorry to find, on his return, active trachoma of all lids."

The second case is interesting as showing how wrestlers may spread the disease outside their own ranks.

A policeman complained of sore eyes, dating from the first time that he wrestled with a friend. He had marked trachoma, with pannus and ulceration of the cornea. On further questioning it was elicited that the "friend" in question was a professional wrestler known to have trachoma. This patient observed instructions carefully and is almost well, although still subject to minor relapses.

Attempts to obtain information from the wrestlers themselves were met with the same excuses, rebuffs and evasions that Dr. Patton encountered in 1922. However, several facts were ascertained. Certainly there is no doubt that "wrestler's eye," endemic among professional wrestlers, is bona fide trachoma. The men themselves are aware of their condition, and many have favorite remedies. A

former champion, whose vision is reputed to be very bad as a result of trachoma, sent word to the writer that he had found mercury bichloride useful in his own case.

As a rule, however, copper solutions are preferred. Many are unaware of the contents of their favorite solutions, and often write to distant cities for formulae they obtained when wrestling there. Generally they accept the condition as an occupational hazard, seldom seek medical attention, and treat themselves and each other. In some of them the trachoma is healed, but vision is often very bad. The infection seems to be transmitted by the transference of secretion from one conjunctival sac to the other. The wrestlers themselves believe that it is carried by perspiration.

It is unlikely that the infection is transmitted voluntarily, as believed by some oculists. In this respect the men are considerate, and it is not unusual for a contestant with trachoma to warn his opponent of the condition before the match begins.

The situation is becoming increasingly grave, and measures to check the menace should no longer be delayed. So long as it is possible for a wrestler with trachoma to compete with an uninfected opponent, just so long will trachoma continue to increase among these men, their families, and their friends. Accordingly, it is idle to

speculate on which medicines should be used as preventives. There is nothing in our experience to indicate that such virulent infections can be eradicated or even controlled by palliative means.

The solution of the problem is suggested by the peculiar organization of wrestling as a sport. The individual manager-athlete combination, as it obtains in boxing, is almost unknown. Instead of this, each promoter has a string of contestants on his payroll; and wrestling is, therefore, controlled by a small number of men. If then, the board of health in each city in which wrestling is permitted were to inaugurate a stiff ophthalmic inspection of the contestants' eyes, it would be impossible for an infected wrestler to enter the ring. With this economic problem staring him in the face, the promoter could be depended upon to have the trachoma among his wrestlers eradicated with all possible speed.

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Communications

Pioneering of the Holt Sisters in the Lay Movement for the Prevention of Blindness

For some years I have been recording in brief story form certain of the activities of Winifred Holt (now Mrs. Rufus Graves Mather) within our field of the blind. And now, after reading in the SIGHT-SAVING REVIEW for June, 1934,

Dr. Posey's delightful paper on "The Romance in the Movement for the Prevention of Blindness," I am moved to expand what he says of her and her sister's contribution to this pioneer movement.

Before Winifred Holt, still a young woman, returned from Europe in 1904, full charged with missionary zeal in behalf of blind people, she had sent her younger sister, Miss Edith Holt (now Mrs. Joseph Colt Bloodgood) to visit my school at Overbrook, Pennsylvania, and afterwards came there herself many times. Meanwhile the two sisters had founded the New York Association for the Blind of which Miss Winifred was made secretary. On my perceiving admiringly what potential champions our cause had gained in these two earnest lay workers, I returned these many visits—indeed, became a member of their association. Anyone reading its first report and the succeeding annual ones and the articles and books which Miss Holt wrote, will be astonished, as I was, at her comprehensive grasp of the general situation as she found it, and at how quickly she initiated means and measures to improve it.

At that time there was for the children of the New York metropolitan area the school on Ninth Avenue, active since 1832, and one for the others of the state at Batavia; but no considerable effort anywhere in the country in behalf of

the adults who always compose by far the larger proportion of the blind population. An up-to-date census revealing not only their numbers and ages but also their every condition and need was the young Association's first desideratum. While Miss Winifred was stirring up interest and support for the work, Miss Edith had opened the census bureau at the Holt residence, where the young women lived with their zealously co-operating brother, Roland Holt. This was then the headquarters of the Association itself and, using census cards and filing methods prepared by special experts, much progress had been made when it became evident that, in order to reach the many blind living in city and state institutions, an official warrant would be required. This brought about the creation of a state commission for the blind.

As I recall succeeding events, the Association's lawyer drew up a bill which he and Miss Winifred carried to Albany. They even suggested to the Governor names for the commissioners, together with that of Dr. F. Park Lewis, the ophthalmologist pre-eminently interested in sight saving, as chairman; and then, because the available appropriation was insufficient to cover the cost of the proposed census, offered in behalf of the Association to lend the needful amount. The Governor, accepting this offer, signed the bill. The resulting com-

mission immediately appointed Miss Edith Holt its secretary of the census, which continued for many months to be for her a labor of love. With her paid assistants, she searched out the remaining blind and completed her long and arduous task. The 6,000 whom they recorded in detail and studied yielded certain startling statistics on causes of blindness, which led the sisters, as well as the commissioners, to realize the inadequacy of existing legislation and care, if not the culpability of society itself in the matter of preventing unnecessary blindness; for the returns showed plainly that very much of this blindness had been avoidable. Just think of it: hundreds of these their fellow citizens need never have gone blind!

One day when Miss Louisa Schuyler, a fellow member of the Association, came to see the Holt sisters at their beehive of a home, Miss Winifred not only made these findings of theirs plain to her, but also proposed what she believed society ought henceforth to be brought to do in the matter. Miss Schuyler offered to secure financial aid for the blind but Miss Holt told her that the most important thing was to prevent blindness. "How," asked Miss Schuyler, "can you prevent blindness?" Even then Miss Schuyler failed to be convinced; but after seeing the Commission's report which printed the statistics along with the pathetic

picture of needlessly blind children now reproduced in Dr. Posey's paper, and being referred and introduced to Dr. Park Lewis, she found that the report was true, and was roused to immediate action. This was enough for so determined a character as Miss Schuyler; and from that time forth prevention of blindness became the prime object of the Association itself, just as it is to this day.

A committee, called the Special Committee for the Prevention of Blindness of the New York Association for the Blind, was soon appointed. This committee made Miss Winifred Holt its official representative at an international congress, meeting in Manchester, England. The original members of the committee included Miss Schuyler, Mrs. Edward Ringwood Hewitt, and the Holt sisters, with Hon. Tecumseh Sherman as chairman. Miss Schuyler soon became chairman. Naturally she had used the above cited census revelations when appealing in person to the Russell Sage Foundation for a starting fund in behalf of prevention. The amount given was \$5,000 a year for five years. A campaign to educate the public through visual and spoken propaganda, which should lead to preventive legislation, was immediately launched. Meanwhile the census office at the Holt home became the prevention office and continued as such until more room became imperative, when a larger

office was opened at the Association's then temporarily hired Light-house and later, upon its having its own permanent Light-house, a large room was reserved for the office there. The first important public demonstration of the prevention of blindness, which was held in 1911 in the Metropolitan Opera House, in connection with a general exhibit of work for and by the blind, was organized by the Association. It was opened by President Taft. This prevention committee of the New York Association for the Blind subsequently grew into an independent organization, the New York State Committee for the Prevention of Blindness; and it is now the National Society for the Prevention of Blindness.

Large and encouraging results have already followed the lay pioneering of the Holt sisters in the first decade of this century. We of the schools for blind children foresee a rapid dwindling in the number of new pupils and even look forward to a day when such schools shall be a thing of the past. May God speed the day!

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The Sight-Saving Review

Editors' Note.—Heretofore we have been reluctant to publish flattering comments on the REVIEW. However, we sincerely believe that implanted amidst the generous praise of Dr. Bahn's communication are some practical suggestions regarding the utility of the REVIEW.

There is no journal published in any language, and especially for such a moderate price, which gives more practical information about sight conservation than the SIGHT-SAVING REVIEW. Each volume contains 80 pages of interesting information, gathered from a wide range of lay and medical sources, by an exceptional editorial board, containing internationally known names, such as Jackson and Wilmer. They seem to have the uncanny ability to select just the right information, and to present it in such a pleasant and simple style, that its reading is a recreation, and not a task.

I have especially enjoyed the original articles, some of which should also be published in medical journals because of their technical excellence, and also because of their human presentation.

The editorials are timely, well written, and encourage thought on subjects selected by a most capable

editor. The forum offers those with different views an opportunity to express themselves, and thereby help in the common cause of sight conservation. Notes and comments contain abstracts of interesting items. They are especially well adapted for talks before dinner and other clubs. The abstracts are selected from a wide range of journals. They often have given me a new and sometimes important viewpoint—that of the intelligent layman.

In my waiting room, patients like to read the REVIEW, and frequently ask questions about the subjects that interest them most. The REVIEW is a valuable aid in educating the public on eye health, about which ophthalmic practice of the future will center. Better understanding will reduce the number of neglected eyes that might have seen better.

Then, too, the REVIEW pleasantly reminds me that I am doing my bit as part of that big family which is doing much to conserve sight, the National Society for the Prevention of Blindness!

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Eye Injuries in Industry

Special exhibit on eye injuries presented by the Section on Ophthalmology during the recent annual meeting of the American Medical Association, in Cleveland. Dr. Thomas D. Allen, chairman of the committee in charge of the exhibit, in acknowledging the Society's co-operation, reported wide interest in the exhibit and in the Society's publications.

Note and Comment

William Campbell Posey, 1866-1934.—At the moment of going to press the REVIEW learns the sad news of the death of Dr. William Campbell Posey, long a member of the National Society's Board of Directors, and contributor to the pages of the REVIEW. A comment on his life and on his inspiration in the field of prevention of blindness will appear in the coming issue.

International Association for Prevention of Blindness.—The spread of the movement for the prevention of blindness into thirty-eight countries in Europe, Asia, Africa and South America, as well as in North America, is eloquent testimony to the inspiration of the International Association for Prevention of Blindness and its loyal adherents. At its recent annual meeting in Paris, many of the national committees were represented, and reports from those not personally represented showed the steady progress of the world-wide movement to conserve sight. Of special interest in the past year have been the active campaign carried on in India, through the Indian Red Cross, to educate the public in the elementary laws of sight conservation; the instructions of the Minister of National Education in Italy for the establishment of sight-saving classes; and the active co-operation of the prevention of blindness division of the Canadian National Institute for the Blind with the International Association, in contributing its posters and periodicals on prevention of blindness. Special mention was made of the progress of the National Committees in Spain, Belgium, the Netherlands, and Great Britain.

It was especially fitting that at the opening of the joint meeting of the International Association and the International Organization Against Trachoma honor be paid to one who has contributed so generously of time and effort to the growth of this far-reaching movement. Dr. Park Lewis, vice-president of the National Society for the Prevention of Blindness, as well as of the International Association, was delegated to bestow upon Dr. Felix de Laperonne, president of the International Association, the Leslie Dana Gold Medal. Said Dr. Lewis:

"Maitre, on behalf of your colleagues and friends in America, may I ask you to accept this disk of gold, not because of its intrinsic worth, but as a symbol of the sincere friendship existing between your country and mine, a friendship which we trust may be endless; also does it express the deep regard which we hold for you, yourself. In receiving this tribute we feel that you give to the medal a new value. Having been accepted by one of the masters of French ophthalmology, it can never be other than a distinction of the highest order."

Dr. de Lapersonne, in accepting the medal, concluded:

"I would feel unworthy of this great honor if I did not entirely attribute it to the International Association for Prevention of Blindness. It is to this Association that this award is made for distinguished services in the prevention of blindness, according to the statutes of the Leslie Dana Foundation, and since the Executive Committee kindly renewed this morning my mandate as chairman, I make the solemn promise to devote all my remaining strength to the task we have undertaken."

Among the distinguished scientists who contributed to the symposium on world-wide control of trachoma and tropical diseases of the eye were Prof. Emile de Grosz of Hungary, chairman of the International Organization Against Trachoma; Dr. A. F. MacCallan, whose work in trachoma control in Egypt has made prevention of blindness history; Prof. Luigi Maggiore, speaking for the strides now being made in Italy; and Dr. Victor Morax, moving spirit in the League Against Trachoma and editor of the *Revue Internationale du Trachome*. Communications on the subject were received from the United States, from India, from Greece, from Brazil and Argentine, as well as from Canada and the West Indies, the Dutch East Indies, Algeria and Tunisia.

Concluding the meeting, the following resolutions were passed:

"1. The Assembly which met in Paris on May 14, 1934, after becoming acquainted with the valuable documents presented at this meeting and after hearing the most competent speakers on this subject, affirms once more the social importance of trachoma: It expresses a wish that an intensive international campaign be carried on against this disease.

"2. The severity of trachoma and its dangers to eyesight are increased during its prolonged course by superadded infections, particularly gonococcal infection which assumes in certain countries the character of a seasonal epidemic.

"3. There is no doubt that the general health and the soil on which the disease evolves have an influence on the prognosis.

"4. Sanitary and administrative measures, the multiplication of hospitals and special dispensaries in countries in which trachoma has been rife for thousands of years have made it possible to cure trachoma in more numerous cases and to circumscribe its harmful effects on eyesight.

"5. On the other hand, although there is as yet no specific treatment for trachoma, the remedies applied during recent years seem to have yielded favorable results, but one must always take into account, when appreciating these results, superadded infections.

"In spite of all it must be acknowledged that the school index of trachoma, which must be considered a criterion, does not decline in certain countries where it is scientifically recorded. This is a further proof that familial infection occurs very early. One must therefore recommend the detection of the disease in the mother and infant by means of home visiting by health visitors and native assistants. They must be intrusted with the immediate application of prophylactic treatment and of elementary hygienic measures."

Eyesight Survey in Pennsylvania.—The vision of 150,000 school children was recently tested by the school division of Pennsylvania's department of health. It was found that, of this number, 5,239 children have seriously defective vision. In order to insure prompt correction of these defects, which, in many cases, might otherwise lead to ultimate blindness, the Department of Health, in co-operation with the Department of Public Instruction, has advised county superintendents of the gravity of the situation, and has supplied them with lists of pupils in their districts having need for immediate corrective measures.

Forward Steps Taken by Japan in Sight Conservation.—The second national conference on prevention of blindness in Japan was held last spring at the Home Office in Tokyo; special interest

was shown in the problem of the partially sighted child, and the following steps were outlined: 1. Establishment of a definition of partial sight; 2. Examination for the detection of children with partial sight; 3. Proposal to national and provincial authorities to establish sight-saving classes. Dr. S. Ishihara, who represents Japan in the International Association for Prevention of Blindness, is among the prominent ophthalmologists on the committee to put these suggestions into effect.

In an effort to extend trachoma control, the Nagasaki committee of the Japanese Red Cross sent out a mobile eye clinic into rural sections. In one day, as many as 869 patients were attended by the physicians, who not only treated those afflicted, but lectured to rural audiences on hygiene of the eyes.

Eye Social Worker's Opportunity Board.—The specialized knowledge of the medical social worker in an eye department "includes information about community resources in the way of sight-saving classes, special educational activities for adults with sight handicaps, and whatever opportunities for industrial re-education and placement may be available through state or local resources. She has a peculiar responsibility in the area of prevention of blindness which goes beyond individual situations into the interpretation of her accumulated knowledge in such a way as to make the community itself aware of specific needs and resources for meeting them in the field of sight conservation." This definition of the expanse of the medical social eye worker's field introduces three case studies in sight conservation, presented in the *Family*, for June, by Lillian Rosenberg, Dora Zane and Mildred McMillan, medical social eye workers who recently completed intensive study in medical social eye work at the Massachusetts Eye and Ear Infirmary in Boston.

That prevention of blindness activities take on many different guises in the well-rounded service of the Pittsburgh branch of the Pennsylvania Association for the Blind is demonstrated in the account of prevention activities given in the *Seer* by Dorothy Hosford, Pittsburgh medical social eye worker. Preschool vision testing given in connection with the parent-teachers' summer round-up has made early contact between sight conservation and

the youngest school children. Incorporation of sight-saving knowledge into the hygiene course of elementary schools was undertaken and prepared by the prevention of blindness department, and conferences with the school board emphasized the error of assuming that correction of eye defects was the ultimate goal of community responsibility to children with visual handicaps; follow-up of progressive cases and application of the principles of eye hygiene were stressed. Other activities of the department for the prevention of blindness lie definitely in the field of medical social service: making arrangements for clinic visits, helping families on relief to procure eyeglasses; and making connections between the families needing eye care and those giving it. The wide contacts which the prevention of blindness worker makes demonstrate most graphically the importance of eye care and the meaning of sight conservation to the whole community.

ASA Formulates Safety Glass Standards.—The wide diversity of claims for safety glass made by manufacturers, and the present tendency of state legislatures to enact laws regulating the use of safety glass in automobiles, make speed in developing safety glass standards imperative, according to a report of the sectional committee of the American Standards Association that met in New York City in June. A technical group, to formulate standards, appointed by Alfred Devine, deputy registrar of motor vehicles in Massachusetts, will include manufacturers of glass, of plastics, of automobiles and other motor vehicles, as well as representatives of insurance groups and members of safety organizations. The standardization of safety glass will follow closely the wide movement for the installation of such glass in all vehicles, an effort in which the National Society for the Prevention of Blindness has been active.

Annual Meeting of Illuminating Engineers.—The Illuminating Engineering Society will hold its annual convention in Baltimore, October 1 to 4. The Tenth Lighting Service Conference and a Lighting Equipment Exposition are special features of the meeting for this year.

British Studies in Illumination Continue.—The investigations of the effects of lighting and the studies of optimal lighting for

special industrial requirements, made under the auspices of the Industrial Health Research Board of Great Britain, have been of inestimable value to industry as well as to public health. A recently completed study on the effects of lighting on the efficiency of tile pressers bears out again the conclusion that good lighting is an important factor in promoting efficiency of workers, even when the nature of the work makes little demand upon the visual capacity. Another study, from which it is yet too early to draw conclusions, is the attempt to determine the optimal lighting for schoolrooms; an investigation into the lighting required for hand sewing is also under way.

Bernard Cridland.—The National Society joins with the International Association for Prevention of Blindness in expressing sorrow and a deep sense of loss in the death of Dr. Bernard Cridland, ophthalmologist and British representative in the International Association. His efforts in the reduction of industrial eye accidents and his invention of the Cridland veil, a mask widely used in England to protect the workman from flying sparks and particles, have made a distinct contribution to sight conservation.

Illuminating Engineering Society Recommends Lighting Intensities for the Home.—The following table of lighting intensities has been recommended by the Committee on Residence Lighting of the Illuminating Engineering Society as desirable for comfort in seeing:

	<i>Operation or Location</i>	<i>Foot-candles</i>
Reading—	Ordinary type.....	10-20
	Prolonged periods with fine type.....	20-50
Sewing—	Ordinary sewing on light goods.....	10-20
	Prolonged sewing on light goods.....	20-50
	Prolonged average sewing.....	50-100
	Fine needlework, sewing on dark goods....	100 or more
Writing.....		10-20
Card Playing.....		5-10
Children's Study Table.....		20-50
Dining Room (when used for reading or writing).....		10-20
Kitchen—	General.....	5-10
	Work Counters, Sink.....	10-20

	<i>Operation or Location</i>	<i>Foot-candles</i>
Bedroom—	General.....	2-5
	Bed Light.....	10-20
	Dresser, Vanity and Dressing Table	
	Mirrors.....	10-30
	Sewing Machine.....	20-50
Bathroom	Mirror.....	10-30
Children's Playroom—	General.....	5-10
	Local.....	10-20
Work Bench.....		10-30
Laundry Tubs, Ironing Machine, Ironing Board.....		10-20
Stairways.....		2-5

Mothers and Children in Russia.—A new note in political propaganda is struck in the 1933 report of maternity and child welfare in Leningrad, Russia. A photographic exposition of the activities of the State in behalf of mothers and children, with short explanatory captions in Russian and English, has been received by the Society.

"Women in the USSR participate in the work of socialist construction on an equal footing with men," says the introduction to the report. "In drawing women into the useful work world, the Soviet government gives them the opportunity for the highest development and realization of their creative abilities. . . . Simultaneously, by measures safeguarding the welfare of mother and child, the Soviet Public Health Department enables the woman-citizen to fulfill her function of motherhood without any interruption in her socially useful activities."

Health and hygiene lectures, corrective and body-building gymnastics given in the factory, maternity leaves of sixteen weeks with full pay, prenatal clinics, maternity homes and pediatric services make the process of motherhood and the period of childhood as free from complications as possible, not only for those who would avail themselves of these services, but for everyone, since such care is compulsory.

Edward F. Glaser.—The National Society for the Prevention of Blindness records with sorrow the death of Dr. Edward F. Glaser on May 9, 1934. By profession and by voluntary affiliations Dr. Glaser had long been devoted to the work of preserving sight. Not only had he been on the Directorate of the National Society since 1918, but he was a vital force in the California Council for

the Conservation of Vision. Dr. Glaser's career was one of enduring loyalties. To him belonged the distinction of having served on the California State Board of Public Health longer than any other member—a period of almost eighteen years—during which time he became noted not only for his medical skill but also for his interest in social advancement.

Prevention of Blindness in India Granted Aid.—A step which has long been sought by prevention of blindness workers in India has recently been made possible through a grant from the National Institute for the Blind in London of £590. This fund will cover expenses for training teachers in simple preventive measures against blindness and will provide for the printing in vernacular and distribution among school children of popular material on the prevention of blindness.

Night Driving: a Special Hazard.—That some people are not equipped by nature for night driving is the warning given by Vernon Scobie, safety engineer, in a series of safety talks on commercial driving. Some people suffer from eyestrain and fatigue more at night than during the day, while others are naturally safer drivers at night than during the hours of daylight. If the company does not provide eye specialists' examinations to test the ability to see under both day and night conditions, Mr. Scobie advises the driver himself to seek an examination. Properly prescribed colored glasses or light filters reduce in many cases the hazards of excessive eye fatigue and strain.

New Outlook and New Educational Aims for the Blind.—On the occasion of the fortieth anniversary of the founding of the Connecticut School for the Blind, Dr. Edward E. Allen, director emeritus of Perkins Institution and Massachusetts School for the Blind, traced the changes that must take place in the modern educational institution for the blind youth. Progressive education, attuned to the abilities of each pupil; selective schools for the blind of normal mentality and special schools for those with a mental as well as a visual handicap; and for all, preparation for a world where economic independence is harder than ever before to attain, must be considered in planning the curriculum for blind students. He concluded:

"A recent Houghton-Mifflin publication, *This Changing World*, foretells the eventual coming of a civilization actuated by a much more enlightened selfishness than the present. When that day comes, mankind will have the time, the freedom and the desire to cultivate true charity, that love which is called the greatest thing in the world. He will then transfer his major energies from relief of suffering to its prevention. As for blindness, there is no real solution of the problem it presents save prevention."

Traffic Signals for Color-Blind Drivers.—Although only about four per cent of the male population, and even less of the female, are color-blind, street traffic engineers must consider their problem in developing traffic signals. Dr. Thomas D. Allen advances a simple plan in the May issue of the *American Journal of Ophthalmology*, which has the added advantage of utilizing the present usual type of traffic light tower. The addition of another green light beside the present green light would show as a horizontal signal to the color-blind driver. Red or caution lights would be on the vertical plane.

Arnaldo Angelucci, 1854-1934.—The world of ophthalmology mourns the loss of a celebrated teacher and a great worker in its movements. Dr. Angelucci, president of the Twelfth International Congress of Ophthalmology, was an enthusiastic supporter of the international movements for the prevention of blindness and the control of trachoma, and his work in these two movements did much to carry to Italy, his native land, principles of health.

Ophthalmic Rule.—A refinement has recently been made by Mr Bishop Harman of the ophthalmic rule which he first introduced in 1910. Now made of duralumin, weighing but half an ounce, it is sufficiently strong to be carried loose in the coat pocket; the markings are mathematically exact. The rule is of special aid to ophthalmologists in determining binocular balance by means of the diaphragm test, and is indispensable to the optician measuring for spectacles.

Glaucoma, a Marker in Ophthalmic Progress.—The lure of medical history is particularly strong in the field of ophthalmology,

for in the case of many eye diseases recent progress has completely reversed older prognoses. Robert Clark Laughlin, who writes on glaucoma in the *Bulletin of the Institute of the History of Medicine*, supplement to the *Bulletin of the Johns Hopkins Hospital*, for May, says that Hippocrates was the first to record glaucoma, an eye disease that he associated with old age. But although writers for many centuries mentioned glaucoma, it was not until the invention of the ophthalmoscope by Von Helmholtz that the disease was understood in the modern sense. The contributions of Von Graefe, Weber, Bowman and Wilmer to the knowledge of glaucoma follow the progress made in every line of ophthalmology. The author concludes: "The day has now come when glaucoma does (not) mean blindness, but the percentage of operative failures is yet far too high. Perhaps the care and scholarly theoretical work now being done on the subject will make possible the day when glaucoma will cause no eyes to be dim."

Drought Causing Eye Accidents.—Carloads of material coming from all parts of the country are so laden with dust and dirt from lack of rain that the superintendent of one New Jersey factory thinks this is one reason for increase in eye injuries among warehousemen and freight handlers unloading box cars.

Illinois Extends Trachoma Control.—Experience in Illinois has shown that trachoma sufferers are restless when forced to remain long periods away from home during the often prolonged course of treatment given at the State Infirmary in Chicago. In order to make the necessary continuance of treatment easier for the patients, through the co-operative efforts of the State Department of Public Health and the State Department of Public Welfare and the Illinois Society for the Prevention of Blindness, arrangements have been made to carry out an intensive program of treatment in the rural southern sections of the state, where trachoma is most prevalent. It is believed that the treatment of the indigent patients who are at present getting no treatment and who have no prospects of getting it except through outside help will result not only in the humanitarian service of preventing blindness, but in large economic saving by reducing the number of blind pensioners for whom the state must eventually care.

Who Wears Glasses?—When records of all medical and eye care were obtained on 8,758 white families in 130 localities in 18 states, during a period of twelve months, it was found that in this average sampling of the population—covering rural, suburban, urban; rich, moderately well-off, poor; native and foreign born—40 per mil had had eye examinations, and that 35 per mil had procured glasses for correction of refractive errors. During the school age, and again from the ages between 50 and 54, the frequency of refraction and correction rises abruptly; refractions are more frequent among those in the higher income brackets, as is to be expected; a larger proportion of persons who had a general physical examination also had a special refraction examination; headache and other symptoms were given as the reason for seeking refraction in 68 per cent of the cases. Most surprising are the figures showing that 10 per cent of refractions were made by eye physicians; 56 per cent by other physicians; and 34 per cent by opticians and optometrists. Selwyn D. Collins makes the report in the June 1 *Public Health Reports*.

Fighting Blindness in Egypt.—Eighty per cent of blindness in Egypt is caused by acute ophthalmia, according to the report of the ophthalmic section of the Ministry of the Interior of that country. Of this number, gonorrheal ophthalmia makes up 47 per cent of the specific infection. That 40 per cent of those seeking ophthalmic aid at eye clinics are between the ages of one and thirty shows not only that the necessity for the treatment of the eyes of children and young persons is popularly appreciated, but also that many of the eye diseases are familial and contagious. Efforts are being made, especially through the school system, to reduce and prevent blindness from preventable causes.

Placing the Responsibility for Road Accidents.—Machines may be perfect, but man, their driver, is still fallible. According to a survey made by the Road Accidents Parliamentary Group of Great Britain, under the leadership of Sir Ernest Graham-Little, more than fifty per cent of accidents are caused by the human factor. Psychological tests, as well as actual road tests, are now being designed to pick out the accident-prone drivers and give them opportunity to correct those failings which might cause

accidents. Important to test are accuracy; speed and regularity of response to stimulus; resistance to distraction; effective distribution of attention; visual and optical defects; and confidence and general behavior in driving a car. The Travelers Insurance Company of Hartford has recently issued a psychological test for drivers, with a scoring system, for car drivers to give themselves. "Are You A Good Driver?" presents situations and tests on which a safe driver should score at least 80 per cent.

Dr. Alan C. Woods to Succeed Dr. Wilmer.—Dr. Alan C. Woods has been named acting director of the Wilmer Ophthalmological Institute and professor of ophthalmology at the Johns Hopkins University School of Medicine, succeeding Dr. William H. Wilmer, whose retirement was announced this spring.

When Dust Gets in Your Eyes.—A safe and effective procedure to follow when a particle gets in the eye is to keep the eyelids open. "Of course," says Dr. J. Robert Burke, writing in a recent issue of *Hygeia*, "closing the lids is the first instinctive reaction, that of protection, but the sudden forceful closing of the lid may be the means of further imbedding the particle in the eyeball. Hold the lids far apart with your fingers, and let the sudden rush of tears, which nature provides, flush over the eyeball. The particle may be floated out in this way." If this simple remedy does not bring relief, he continues: "Keep the involved eye gently closed and get to a doctor as quickly as you can. Do not go to a druggist, a beauty operator, or a barber; your eye is too precious for experimentation. . . . Avoid, as you would the plague, untrained persons who are always eager to help you."

National Society Notes.—The Board of Directors announces the election of George C. Clark of New York City as Treasurer of the Society. Mr. Clark, who was associated professionally with the late George Blagden, is deeply interested in the aims of the Society and well acquainted with the duties of its financial stewardship. Dr. Edward Jackson, known as the dean of American Ophthalmology, consulting editor of the *American Journal of Ophthalmology*, has accepted membership on the Society's Board of Directors. A recent addition to the REVIEW's Board of Editors is Dr. Percy W.

Cobb, associate professor of applied biophysics in the Medical School of Washington University.

Ohio Wesleyan University bestowed upon Edward Marlay Van Cleve, principal of the New York Institute for the Education of the Blind, the honorary degree of doctor of laws. Mr. Van Cleve was formerly managing director of the National Society for the Prevention of Blindness, and is now a member of its Executive Committee and Board of Directors. The citation reads: "A noble gentleman, an educator who has used his gifts and his training for the education of those who are blind, one who has given himself so completely to this service that he has come to be recognized as among the first in the land in promoting and directing work for the amelioration, the education and the direction of the blind." This is the second time that such an honor has shed its reflected glory upon the Society: last June, Hobart College honored her son and alumnus, Lewis H. Carris, managing director of the Society, with the same degree.

Staff members of the National Society co-operated with several universities and colleges in lecturing to summer session students on various phases of sight conservation. Mr. Carris visited training courses for sight-saving class teachers at the University of Cincinnati, the University of Chicago, State Teachers College at Buffalo, New York, and Teachers College, Columbia University, where Mrs. Winifred Hathaway, associate director, was special lecturer. Dr. Anette Phelan, staff associate, lectured to various groups of students at Fisk University and George Peabody College in Nashville, Tennessee, on integrating eye hygiene in classroom teaching.

Mrs. Hathaway attended the Alabama Conference of Social Work in Montgomery, where she spoke on the necessity of making educational provision for children with visual handicaps; she visited schools in Montgomery, Birmingham and Tuscaloosa to discuss the possibility of establishing sight-saving classes in those cities.

At the meeting of the American Academy of Ophthalmology and Otolaryngology in Chicago, Dr. Lawrence T. Post, editor of the

American Journal of Ophthalmology, and Miss Eleanor P. Brown, associate director of the Society, presented a joint paper on "Social Service in Ophthalmology."

Miss Mary Emma Smith, R.N., director of nursing activities, spoke at the Vermont State Nurses Association and the Monmouth County (New Jersey) Organization for Social Service, on preschool vision testing and prevention of blindness activities.

Co-operating with the New York Tuberculosis and Health Association, staff members of the Society have talked over the air, on sight conservation. Miss Brown discussed "Saving Sight in Summer"; David Resnick, director of publicity, spoke on "Eye Health for Children"; and, under the sponsorship of the Catholic Big Sisters of Brooklyn, Theodore O. Yoder, staff associate, discussed "Fireworks as a Cause of Blindness and Impaired Vision Among Children."

Current Articles of Interest

Low Fusion Convergence as a Factor in Reading Disability, Thomas Harrison Eames, *American Journal of Ophthalmology*, August, 1934, published monthly by the Ophthalmic Publishing Company, St. Louis, Mo. A study made to determine whether or not fusional dysfunction is an important factor in reading disability shows: 1. The median amplitude of fusion convergence is lower among nonreaders than among unselected cases; 2. The reading-disability group shows a higher percentage of cases below the level of the median of the unselected group in all three sizes of type used in the study; 3. The smaller the type the lower the amplitude of fusion convergence in both groups, but the percentage of reading-disability cases falling below the level of the median of the unselected group increases as the size of the letters diminishes; 4. The amplitude of fusion convergence is an important factor in reading disability.

Interstitial Keratitis, A Modern Anachronism, Park Lewis, M.D., *American Journal of Ophthalmology*, May, 1934, published monthly by the Ophthalmic Publishing Company, St. Louis, Mo. Interstitial keratitis, one of the most common causes of defective vision and blindness, is also among the easiest to prevent. Through early treatment of the syphilitic expectant mother, the child is protected from infection; yet the simple method of diagnosis and the necessary treatments are very frequently overlooked by otherwise competent physicians. A special appeal is made to ophthalmologists to co-operate in the campaign against this potential cause of blindness.

Ophthalmia Neonatorum, David Lees, F.R.C.S., *Public Health*, July, 1934, published monthly by the Society of Medical Officers of Health, London, England. A critical survey of the progress made in the prevention and treatment of ophthalmia neonatorum since 1881 is particularly valuable for the many references to the published views of the recognized authorities on the disease. The

writer concludes: "Although much has been done to reduce ophthalmia since Credé's work in 1881, there is no apparent reason why it should not be still further reduced and made a rare condition, if only the medical profession will utilize to the full the possibilities of preventive and curative medicine."

The Conquest of Congenital Syphilis, M. J. Exner, M.D., *Public Health Nursing*, August, 1934, published monthly by the National Organization for Public Health Nursing, New York, N. Y. "The lesions of late congenital syphilis, appearing mostly between the ages of two and fifteen, are chiefly those of the eye, mostly keratitis; . . . in one clinic, 63 per cent of the children over five years of age with clinically active syphilis had interstitial keratitis. In neglected cases keratitis usually impairs vision or causes blindness." The author stresses the importance of a diagnostic blood test for every expectant mother in order to prevent the tragic sequelae of congenital syphilis.

The Eye as Affected by Illumination, Le Grand H. Hardy, M.D., *Transactions of the Illuminating Engineering Society*, May, 1934, published monthly by the Illuminating Engineering Society, New York, N. Y. The author presents a comprehensive survey of the effect of light or visible radiation upon the eye, including its physical, pathological and physiological effects. The oculomotor functions are outlined and the illumination requirements for each of these functions discussed, as are also the psychological or perceptual functions of the eye. A review of the gradual revision upward of the intensity levels described as most efficient is made, with comments pertaining to intensity, spectral quality, distribution, diffusion, and other variables as related to ease, comfort and efficiency of seeing.

Your Children's Eyes, J. Robert Burke, M.D., *Hygeia*, July, 1934, published monthly by the American Medical Association, Chicago, Ill. Prompted by the questions parents often ask oculists, the author opens a general discussion on eyes in childhood, stressing the importance of cleanliness of the eyes of the infant, the avoidance of glare in infancy and childhood, the need for parents to view with concern any deviation of the eyes from normal fusion, and

the importance of providing corrective glasses for the nearsighted and farsighted child.

Light and Its Effect on Health, Howard A. Dunaway, M.D., *Medical World*, August, 1934, published monthly by the Medical World, Philadelphia, Pa. Pointing out the modern uses of light—as a source of ultra-violet radiation and for the illumination of work places—the author concludes: "This new factor of understanding the applications of light in industries makes the working man happier, saves the eyes, improves the health and makes for a better race of people."

Intravenous Use of Copper Sulphate Combined with Sodium Thiosulphate in Treatment of Trachoma, C. E. Rice, M.D., A. A. Drake, M.D., and J. E. Smith, *Public Health Reports*, May 4, 1934, published weekly by the United States Government Printing Office, Washington, D. C. In cases where the treatment of trachoma was undertaken by using a combination of copper sulphate with sodium thiosulphate, in varying doses, intravenously, it was found that in smaller doses there was no change in the pathology, although there was some improvement occasionally in the symptomatology. In the larger doses recommended by Stastnik, there was an undesirable reduction in red blood cells and hemoglobin. It is the conclusion of the writers that the possible dangers of this form of therapy outweigh any slight benefits obtained from it, and certainly it does not compare with older, established methods of therapy.

Psychogenetic Disturbances of Vision, Wilhelm Stekel, M.D., translated by Louis S. London, M.D., *Archives of Ophthalmology*, July, 1934, published monthly by the American Medical Association, Chicago, Ill. "One sees only what one wishes to see," says the author, and presents several case histories of disturbances of vision which were purely psychotic, and which responded to psychoanalytic methods.

Vitamin G Deficiency, Paul L. Day, *American Journal of Public Health*, June, 1934, published monthly by the American Public Health Association, New York, N. Y. Experimental work on young rats deprived of vitamin G showed the production of cata-

ract when the deficiency was continued over a period of time. While it is yet impossible to gauge the minimum requirements of vitamin G to prevent the formation of cataract in man, it is plausible to quote and to agree with the conclusion of Sherman and Smith, who said, "the significant improvement . . . in longevity resulting from improving a diet already adequate is probably due in part to the higher content of vitamin G." Observing the premature old age resulting from vitamin G deficiency, and the preservation of youth and increased length of life resulting from a liberal intake of vitamin G, it is possible to make out a plausible case for a possible relationship between vitamin G deficiency and senile cataract. The signs of senility—the falling out of hair and other similar changes in the epidermal organs—in the experimental animals further correlated the relationship between premature senility, formation of cataract, and vitamin G deficiency.

Quality Requirements in Eye Protectors, W. P. Elstun, *Safety Engineering*, May, 1934, published monthly by the Safety Magazine Publishing Company, New York, N. Y. Goggles must be fitted to their tasks; they must be serviceable, comfortable to the wearer, and easily inspected for small defects. If they are to be worn by more than one man, they must be capable of withstanding sterilization. Technical investigation, laboratory tests and field trials are three methods of demonstrating goggle efficiency on the special job.

Book Reviews

MILTON'S BLINDNESS. Eleanor Gertrude Brown, Ph.D. New York: Columbia University Press, 1934. 167 p.

This remarkable book is the thesis presented by Miss Brown of Dayton, Ohio, as one of the requirements of the Ph.D. degree which was conferred upon her by Columbia University at the June, 1934, commencement—the first instance of a blind woman receiving the degree. The facts of Miss Brown's life are too well known to need repetition. She has shown phenomenal ability, determination and courage in working her way up through the undergraduate courses and the graduate school until she now has the A.B., the A.M. and the Ph.D. degrees to her credit. Moreover she has a record of many years of successful teaching in one of the large public high schools of Dayton.

A friend of mine, commenting recently on this achievement, remarked that Miss Brown's work as a teacher is far the more noteworthy as she could dictate her thesis. But, before she could dictate, she had to make herself a Milton scholar, and anyone who thinks that a simple task should study the footnotes and the bibliography which reveal the vast amount of research which preceded the making of the book. Both achievements, the teaching and the winning of the doctor's degree, show a remarkable capacity for adaptation to situations and an unconquerable determination.

Miss Brown's book is no slavish following of authorities. She takes successful issue with many well-known scholars, with Denis Saurat and his theory of Milton's blindness, with Dr. Tillyard and his interpretation of Sonnet XIX, with Professor Erskine and his interpretation of the autobiographical passage at the beginning of the third book of *Paradise Lost*, with those who think the character of Samson in *Samson Agonistes* strictly autobiographical, with Southey in his study of the autographs of Milton. But her chief contribution is her interpretation of the character and work of Milton from the standpoint of one who shares with him the experience of blindness. She reaches the conclusion that sighted

persons, because of their lack of experience, have overestimated the depressing effect of blindness on the poet. She quotes as an entirely sincere expression of Milton's feeling, his words in the Second Defence: "It is not miserable to be blind. He only is miserable who cannot bear his blindness with fortitude." And she adds out of her own experience: "It is not miserable to be blind. I have sometimes thought that perhaps the best word for it is *inconvenient*. . . . It should be remembered that every individual has some kind of burden, and while blindness is not the lightest, it appears heavier to the sighted world than to the blind themselves. After all, few of us would willingly surrender our burden for that of another."

While Milton's blindness did not, in Miss Brown's judgment, make him, as others have affirmed, more sensitive to personal attacks, nor affect his choice of images, of luminous and color adjectives, his painting on a vast canvas, it did increase his power of concentration and it deepened his life and his poetry philosophically and spiritually. Milton would not have been the Milton we know if he had not been blind.

At the end of Lycidas the "Swain . . . twitch'd his Mantle blew" and on the morrow set out to "fresh Woods and Pastures new." We wonder what other conquests Miss Brown has in mind.

EDWARD S. PARSONS

EXTERNAL DISEASES OF THE EYE. Donald T. Atkinson, M.D. Philadelphia: Lea and Febiger, 1934. 704 p. Illustrated.

The author states that he believes such a textbook as this which deals primarily with the diseases in the anterior segment of the eye will be of value to the general practitioner and student since most of the diseases of the eye occur in the anterior half.

In chapter 2, Diseases of the Eyelids, he devotes more discussion to and has many more illustrations of the skin diseases of the eye than is found in any previous textbook in English. He includes a fairly comprehensive description of various operations for the repair of lid defects. A discussion of the lacrimal apparatus includes many rare diseases.

His chapter 4, on nasal pathology involving the eye and cor-related symptoms, is of help to the student summing up the isolated

facts most often discussed separately by the ophthalmologist and the rhinologist. In his chapter on tumors of the orbit he discusses the causes of proptosis and gives illustrations showing unusual types of tumors. Here he includes operations on the orbit and gives at length descriptions of the various techniques for enucleation of the globe. Under conjunctival disease he includes injuries, infections, tumors, and describes various types of surgical repair of the conjunctiva.

The portion on sympathetic disease is too brief. There is no mention of the typical node formation and furrows or folds of the iris, its thickening and new blood vessel formation seen in typical cases of this disease. No mention is made of the significance of shrinking of the globe after injury.

His final chapter is on treatment and in this he gives a large number of prescriptions used for various diseases. In all there are 110 pages on surgery which seem to be a bit too much for the size of the book if it is intended chiefly for students and the general practitioner. I think more emphasis should have been placed on the attempt to develop vision in the squinting eye when he discusses squints and their treatment.

The book contains material on fungus diseases not commonly found in the average textbook. The illustrations are good and numerous. In all we believe that the book has merit and should be added to the student's shelf in the library of all medical schools.

L. BOTHMAN, M.D.

A HAND-BOOK OF OCULAR THERAPEUTICS. Sanford R. Gifford, M.A., M.D., F.A.C.S., Philadelphia: Lea & Febiger, 1932. 272 p. Ill. with 36 engravings.

This book is an evaluation of the principal therapeutic agents in ophthalmic practice in present use. It is a summary of a considerable experience not only from the clinical standpoint but also from laboratory tests. While it is a one-man opinion, yet on the whole this agrees in a surprising manner with the results of others.

The author is not content with time-honored agents and methods but has given a thorough trial to procedures which seem to fill a gap in our therapeutic equipment. Emphasis is placed upon careful observation of the actions of drugs and procedures in the indi-

vidual case so that, if the desired effects are not produced, other methods may be applied without loss of time. An attempt has been made to form an honest judgment on disputed questions and this gives the book a practical value.

The book is a modern résumé of ophthalmic therapeutics, and is welcome!

HARRY VANDERBILT WÜRDEMAN, M.D.

INDUSTRIAL HEALTH SERVICE. Leverett Dale Bristol, M.D., Dr. P.H. Philadelphia: Lea & Febiger, 1933. 170 p.

This little book is a condensed discussion of facts and problems of the health of the worker in industry from his personal standpoint and that of the employer and supervisor. It is written in non-technical language and presents a well-rounded industrial health program which will be of practical value to all those actively engaged in the organization, administration, and appraisal of health services in industry, to students of public health, business and labor officials.

There are 37 chapters, all of them very short, practically taking up the entire field of industry and health of employees. The following services are recommended to be available in the larger and more highly organized industrial medical departments:

First aid in sickness and accidents.

Advice on medical or surgical problems.

Attention to ailments of short duration and of a character not requiring absence from work.

Laboratory examinations, in co-operation with employee's physician.

Routine physical examination for employment, or in cases of suspected disease.

Periodic health examinations.

Distribution of health literature.

Co-operative services with sickness benefit committees or group insurance agencies, where present.

It is of particular interest to note that while industrial medicine is somewhat of a specialty in itself, yet a wide range of practice may exist; some companies depend upon services of private physicians and nurses, others allow their employees to select their own physicians and nurses. The industrial nurse is a specialist in indus-

trial organizations. She is not a doctor, a detective, a truant officer, or a medical policewoman. She can be of the greatest service in furthering the efficiency of the workers and the success of the business by friendly co-operation and tact, together with her professional duty, in which her chief objectives, as well as those of the medical man, should be education and prevention.

The three main divisions of the work are on industrial health service from the standpoint of management, from the standpoint of the supervisor, and, in semi-popular style, material that has to do with the personal health of individual employees, which may be used by the management as a basis for company health education through magazine articles, leaflets, bulletins, or talks on various health subjects.

As the work is so condensed, it is impossible to give a résumé of its contents. It is recommended for the purpose for which issued.

HARRY VANDERBILT WÜRDEMANN, M.D.

HEALTH AND ENVIRONMENT. Edgar Sydenstricker, New York: McGraw-Hill Book Company, Inc., 1933. 217 p.

Health and Environment, a recent monograph of the President's Research Committee on Social Trends, prepared by Edgar Sydenstricker, is in the words of the author "a frank attempt to review very briefly in a dispassionate manner the more important evidence bearing on environment and health . . . keeping as far away as we can from opinion, and staying as close as we can to important relevant facts."

In his conception of environment, the author includes "all external circumstances both physical and social which come into relationship with the lives of human beings." Such a concept of environment, including as it does all circumstances except true biological inheritance, offers a wide range of factors influencing the health of the population. The author considers in detail the geographic influences with variations in climate, soil and topography; the contrasted influences of rural and urban environment; the influences of economic status; the social factors in their influence on health; and influence of occupational environment. As one might expect, the study deals with many aspects of health, as well as many diseases and impairments. The author

cites instances to show how cultural progress favorably influences the health of the population, and offers suggestions for further advances in improvement of health.

The problem of eye health receives its share of attention, but the data on eye health are drawn chiefly from studies on vision impairments and the correction of them. In his analysis of the studies the author reveals some rather definitely indicated relationships.

The influence of occupational environment on vision defects was illustrated by the relative frequency of vision defects among postal clerks and garment workers as compared with the same defects among workers in other occupations; the relative frequency of the same defects among letter sorters as compared with other post-office workers; the prevalence of cataracts among glass blowers; and the excessive rates for inflamed eyes among workers in foundry, postoffice, and gas industries, and workers exposed to dust in glass industries. The author concludes that in some garment and postoffice occupations, intensive eye work under low degrees of illumination was undoubtedly the important, if not the principal, cause of the vision defects and eye disorders.

The author advances the following conclusion: "To the extent that effective conservation of that vitality which we inherit is purchasable in the market, health is determined by economic status." In support, he offers evidence from various health studies. In so far as vision corrections are concerned, the data offered appear to substantiate the conclusions drawn. A survey of corrected and uncorrected vision defects, analyzed by groups on different income levels, shows that wage earners in skilled trades have the highest rates for uncorrected vision defects, but the lowest for corrected, whereas the opposite is true for the professional group. Business men have a higher rate for corrected vision defects than wage earners, but lower than professional men.

The problem of correction of defective vision as indicated in the present study takes on a new significance when viewed in the light of another recent study dealing also with the correction of defects. In the study in question, data were offered to support the conclusion that economic status had less influence on the correction of defects of school children than had the educational efforts made by

the school. The findings of the second study do not contradict those quoted by Dr. Sydenstricker, but do suggest the influence of education on a change of living standards.

Dr. Sydenstricker draws evidence also from a recent survey of medical care and economic status to support his conclusion that the amount and quality of medical services received by people are proportionate to their purchasing power. In this study the subjects were grouped in five classes ranging from well-to-do to very poor. Among the well-to-do every patient with an eye disease received medical care; less than three-quarters of the patients in moderate circumstances received medical care; about one-half of the poor, and slightly more than one-quarter of the very poor.

The study as a whole reflects the courage of the writer in attempting so tremendous a task, the clarity of thinking in the attack upon the many problems involved, and an absence of bias on a question in which personal opinion plays so important a part.

ANETTE M. PHELAN, PH.D.

Briefer Comment

OUR PUBLIC SCHOOLS. Washington, D. C.: National Congress of Parents and Teachers, 1934. 208 p.

"Because issues have been clouded, emergencies have been critical, and people have been confused in properly evaluating the best things in life, there has been a need for stimulating and vital information concerning our public schools and a rededication throughout the nation to those American ideals of education which it must be our indomitable will to preserve," says Mrs. Hugh Bradford, president of the National Congress of Parents and Teachers, in a foreword to this handbook which sets forth the history and the scope of public education in the United States.

THE MOTHER'S ENCYCLOPEDIA. Compiled and edited by the Editors of the *Parent's Magazine*. New York: Reynal & Hitchcock, 1934. 959 p.

A volume of material originally appearing in the *Parent's Magazine*, this book serves its purpose of preserving for convenient

reference the advice and precepts of one hundred and thirty contributors on all the many questions that might arise in the management of children—physically, mentally and emotionally. The articles, which have been condensed and brought up to date for this edition, are short and to the point; all are cross-indexed under the titles, so that further information on the same subject may be readily found. From "Adolescent Boys," through "Headaches in Children," and "Prickly Heat," to "Youthful Chivalry," this volume contains a wealth of practical information based upon sound principles.

CLOSED DOORS. Margaret Prescott Montague. Boston: Houghton Mifflin Company, 1934. 218 p.

This collection of stories of children in schools for the blind and the deaf first appeared in 1915; a revised and enlarged edition comes with the flavor of a new book after this long interval. Poignant in their grasp of child psychology, the stories should help all concerned with handicapped children to think less of the handicap and more of the children.

A BRIEF HISTORY OF THE MASSACHUSETTS EYE AND EAR INFIRMARY AND OF THE HOWE LABORATORY OF OPHTHALMOLOGY. Boston: Privately printed, 1933. 23 p.

A history of 110 years of effort to preserve sight in Massachusetts follows the history of ophthalmology in this country, as well, for many of the leaders of the science of ophthalmology were connected with the Massachusetts Eye and Ear Infirmary and the Howe Laboratory; among them were Lucien Howe, Benjamin Joy Jeffries, Hasket Derby, Myles Standish, and George Strong Derby.

A STUDY OF SCHOOL HEALTH STANDARDS. Anette M. Phelan, Ph.D. New York: Privately printed, 1934. 249 p.

This volume is of special interest to readers of the REVIEW because the author, Dr. Phelan, has since become a staff member of the National Society for the Prevention of Blindness, and is engaged in incorporating eye hygiene in school health education.

The thesis, which was submitted for the degree of doctor of philosophy, presents a twofold purpose: first, discovery of the controversial issues in the available school health standards; and,

second, ways and means of clarifying the issues and resolving the controversies. The following extract from the review by Dr. Charles H. Keene, in the current issue of the *American Journal of Public Health*, admirably sums up the content of this painstaking study:

"This text is based on a questionnaire study of the opinions of sixty carefully selected individuals whose official positions and activities would seem to indicate that they were competent to judge of the needs of a school health program.

"Before arriving at the standards themselves, there is a good summary of much of the literature showing the development of school health procedures. This discussion and its bibliography are arranged conveniently in time periods.

"After discussing the Problem, and Consideration of the Results as a Whole, there are presented chapters on the comparative merits of work done by professional and by lay workers, in the hygiene of the school plant, on the classification of children and special education, and on a group of other school health problems, such as health of teachers and health education materials. The chapters on school plants, on classification of children and special education, and on the health of teachers and the use of health teaching materials are the most worth while of the text."

Contributors to This Issue

Dr. Walter H. Snyder, who is an ophthalmologist in Toledo, Ohio, is president of the Ohio Commission for the Blind.

Dr. M. Meissner is the director of the Institute for the Blind in Vienna; his article is translated and interpreted by **Dr. E. V. L. Brown**, who is professor of ophthalmology at the School of Medicine of the Division of the Biological Sciences at the University of Chicago, and secretary to the board of directors of the Illinois Society for the Prevention of Blindness.

Miss Margaret M. L. Catton is director of social service of the Hospital Social Service Association of Hawaii, in Honolulu; **Mrs. Dora Zane**, who spent some months in the United States preparing herself to do special work in prevention of blindness, is medical social eye worker at the Queen's Hospital in Honolulu.

Dr. E. H. Cary is a practicing ophthalmologist in Dallas, Texas, and professor of ophthalmology and otolaryngology at the Baylor University College of Medicine.

Miss Catharine A. Flanigan is a sight-saving class teacher in Schenectady, New York; the demonstration sight-saving class at State Teachers College, in Buffalo, was conducted by her this past summer.

Mr. Lewis H. Carris contributes an editorial, not only as managing director of the National Society, but also as a lifelong participant in the pedagogic field—as teacher, as principal, and, later, as superintendent in the public school system.

Among the book reviewers: **Dr. Harry Vanderbilt Würdemann**, author of *Injuries of the Eye*, has recently been elected president of the Seattle chapter of the Pan-American Medical Association; **Dr. Anette M. Phelan** is a staff associate with the National Society for the Prevention of Blindness; **Dr. L. Bothman** is on the faculty of the School of Medicine of the University of Chicago; **Dr. Edward S. Parsons**, president of Marietta College, is a widely known authority on Milton.

